Private Library of
BRADSHAW H. SWALES,
DETROIT, - MICH.

Rec'd Oct 21/89

B H Swales
1-20-05

THE AUK:

A QUARTERLY JOURNAL OF ORNITHOLOGY.

VOL. VI. OCTOBER, 1889. No. 4

THE PRESENT STATUS OF THE WILD PIGEON (*ECTOPISTES MIGRATORIUS*) AS A BIRD OF THE UNITED STATES, WITH SOME NOTES ON ITS HABITS.

BY WILLIAM BREWSTER.

IN THE SPRING of 1888 my friend Captain Bendire wrote me that he had received news from a correspondent in central Michigan to the effect that Wild Pigeons had arrived there in large numbers and were preparing to nest. Acting on this information, I started at once, in company with Mr. Jonathan Dwight, Jr., to visit the expected 'nesting' and learn as much as possible about the habits of the breeding birds, as well as to secure specimens of their skins and eggs.

On reaching Cadillac, Michigan, May 8, we found that large flocks of Pigeons had passed there late in April, while there were reports of similar flights from almost every county in the southern part of the State. Although most of the birds had passed on before our arrival, the professional Pigeon netters, confident that they would finally breed somewhere in the southern peninsula, were busily engaged getting their nets and other apparatus in order for an extensive campaign against the poor birds.

We were assured that as soon as the breeding colony became established, the fact would be known all over the State, and there would be no difficulty in ascertaining its precise location. Accordingly we waited at Cadillac about two weeks during which

time we were in correspondence with netters in different parts of the region. No news came, however, and one by one the netters lost heart, until finally most of them agreed that the Pigeons had gone to the far North beyond the reach of mail and telegraphic communication. As a last hope, we went, on May 15, to Oden, in the northern part of the southern peninsula, about twenty miles south of the Straits of Mackinac. Here we found that there had been, as elsewhere in Michigan, a heavy flight of birds in the latter part of April, but that all had passed on. Thus our trip proved a failure as far as actually seeing a Pigeon 'nesting' was concerned; but, partly by observation, partly by talking with the netters, farmers, sportsmen, and lumbermen, we obtained much information regarding the flight of 1888 and the larger nestings that have occurred in Michigan within the past decade, as well as many interesting details, some of which appear to be new, about the habits of the birds.

Our principal informant was Mr. S. S. Stevens of Cadillac, a veteran Pigeon netter of large experience and, as we were assured by every one whom we asked concerning him, a man of high reputation for veracity and carefulness of statement. Mr. Stevens's testimony was as follows:

Pigeons appeared that year in numbers near Cadillac, about the 20th of April. He saw fully sixty in one day scattered about in beech woods near the head of Clam Lake, and, on another occasion, about one hundred drinking at the mouth of a brook, while a flock that covered at least eight acres was observed by a friend, a perfectly reliable man, flying in a northeasterly direction. Many other smaller flocks were reported.

The last nesting in Michigan of any importance was in 1881, a few miles west of Grand Traverse. It was of only moderate size,— perhaps eight miles long. Subsequently, in 1886, Mr. Stevens found about fifty dozen pairs nesting in a swamp near Lake City. He does not doubt that similiar small colonies occur every year, besides scattered pairs. In fact, he sees a few Pigeons about Cadillac every summer, and in the early autumn young birds barely able to fly are often met with singly or in small parties in the woods. Such stragglers attract little attention and no one attempts to net them, although many are shot.

The largest nesting he ever visited was in 1876 or 1877. It began near Petosky and extended northeast past Crooked Lake

for twenty-eight miles, averaging three or four miles wide. The birds arrived in two separate bodies, one directly from the south by land, the other following the east coast of Wisconsin and crossing at Manitou Island. He saw the latter body come in from the lake at about three o'clock in the afternoon. It was a compact mass of Pigeons, at least five miles long by one mile wide. The birds began building when the snow was twelve inches deep in the woods, although the fields were bare at the time. So rapidly did the colony extend its boundaries that it soon passed literally over and around the place where he was netting, although when he began, this point was several miles from the nearest nest. Nestings usually start in deciduous woods, but during their progress the Pigeons do not skip any kind of trees they encounter. The Petosky nesting extended eight miles through hard-wood timber, then crossed a river bottom wooded with arbor-vitæ, and thence stretched through white pine woods about twenty miles. For the entire distance of twenty-eight miles every tree of any size had more or less nests, and many trees were filled with them. None were lower than about fifteen feet above the ground. Pigeons are very noisy when building. They make a sound resembling the croaking of wood-frogs. Their combined clamor can be heard four or five miles away when the atmospheric conditions are favorable. Two eggs are usually laid, but many nests contain only one. Both birds incubate, the females between two o'clock P. M. and nine or ten o'clock the next morning; the males from nine or ten o'clock A. M. to two o'clock P. M. The males feed twice each day, namely, from daylight to about eight o'clock A. M., and again late in the afternoon. The females feed only during the forenoon. The change is made with great regularity as to time, all the males being on the nest by ten o'clock A. M. During the morning and evening no females are ever caught by the netters; during the forenoon no males. The sitting bird does not leave the nest until the bill of its incoming mate nearly touches its tail, the former slipping off as the latter takes its place. Thus the eggs are constantly covered, and but few are ever thrown out despite the fragile character of the nests and the swaying of the trees in high winds. The old birds never feed in or near the 'nesting,' leaving all the beech mast, etc., there for their young. Many of them go one hundred miles each day for food. Mr. Stevens is satisfied that Pigeons continue laying and hatching during the

entire summer. They do not, however, use the same nesting place a second time in one season, the entire colony always moving from twenty to one hundred miles after the appearance of each brood of young. Mr. Stevens, as well as many of the other netters, with whom we talked, believes that they breed during their absence in the South in the winter, asserting as proof of this that young birds in considerable numbers often accompany the earliest spring flights.

Pigeon netting in Michigan is conducted as follows: Each netter has three beds. At least two, and sometimes as many as ten 'strikes' are made on a single bed in one day, but the bed is often allowed to 'rest' for a day or two. Forty or fifty dozen birds are a good haul for one 'strike.' Often only ten or twelve dozen are taken. Mr. Stevens's highest 'catch' is eighty-six dozen, but once he saw one hundred and six dozen captured at a single 'strike.' If too large a number are on the bed, they will sometimes raise the net bodily and escape. Usually about one third are too quick for the net and fly out before it falls. Two kinds of beds are used, the 'mud' bed and the 'dry' bed. The former is the most killing in Michigan, but, for some unknown reason, it will not attract birds in Wisconsin. It is made of mud, kept in a moist condition and saturated with a mixture of saltpetre and anise seed. Pigeons are very fond of salt and resort to salt springs wherever they occur. The dry bed is simply a level space of ground carefully cleared of grass, weeds, etc., and baited with corn or other grain. Pigeons are peculiar, and their habits must be studied by the netter if he would be successful. When they are feeding on beech mast, they often will not touch grain of any kind, and the mast must then be used for bait. A stool bird is an essential part of the netter's outfit. It is tied on a box, and by an ingenious arrangement of cords by which it can be gently raised or lowered, is made to flap its wings at intervals. This attracts the attention of passing birds which alight on the nearest tree, or on a perch which is usually provided for that purpose. After a portion of the flock has descended to the bed, they are started up by 'raising' the stool bird, and fly back to the perch. When they fly down a second time all or nearly all the others follow or accompany them and the net is 'struck.' The usual method of killing Pigeons is to break their necks with a small pair of pinchers, the ends of which are bent so that they do not quite meet. Great care must be taken not to shed blood on the bed, for the Pigeons notice this at once and

are much alarmed by it. Young birds can be netted in wheat stubble in the autumn, but this is seldom attempted. When just able to fly, however, they are caught in enormous numbers near the 'nestings' in pens made of slats. A few dozen old Pigeons are confined in the pens as decoys, and a net is thrown over the mouth of the pen when a sufficient number of young birds have entered it. Mr. Stevens has known over four hundred dozen young Pigeons to be taken at once by this method. The first birds sent to market yield the netter about one dollar a dozen. At the height of the season the price sometimes falls as low as twelve cents a dozen. It averages about twenty-five cents.

Five weeks are consumed by a single nesting. Then the young are forced out of their nests by the old birds. Mr. Stevens has twice seen this done. One of the Pigeons, usually the male, pushes the young off the nest by force. The latter struggles and squeals precisely like a tame squab, but is finally crowded out along the branch and after further feeble resistance flutters down to the ground. Three or four days elapse before it is able to fly well. Upon leaving the nest it is often fatter and heavier than the old birds; but it quickly becomes much thinner and lighter, despite the enormous quantity of food that it consumes.

On one occasion an immense flock of young birds became bewildered in a fog while crossing Crooked Lake and descending struck the water and perished by thousands. The shore for miles was covered a foot or more deep with them. The old birds rose above the fog, and none were killed.

At least five hundred men were engaged in netting Pigeons during the great Petosky 'nesting' of 1881. Mr. Stevens thought that they may have captured on the average 20,000 birds apiece during the season. Sometimes two car loads were shipped south on the railroad each day. Nevertheless he believed that not one bird in a thousand was taken. Hawks and Owls often abound near the 'nesting.' Owls can be heard hooting there all night long. The Cooper's Hawk often catches the stool Pigeon. During the Petosky season Mr. Stevens lost twelve stool birds in this way.

There has been much dispute among writers and observers, beginning with Audubon and Wilson and extending down to the present day, as to whether the Wild Pigeon lays one or two eggs. I questioned Mr. Stevens closely on this point. He assured me

that he had frequently found two eggs or two young in the same nest, but that fully half the nests which he had examined contained only one.

Our personal experience with the Pigeon in Michigan was as follows:

During our stay at Cadillac we saw them daily, sometimes singly, usually in pairs, never more than two together. Nearly every large tract of old growth mixed woods seemed to contain at least one pair. They appeared to be settled for the season, and we were convinced that they were preparing to breed. In fact, the oviduct of a female killed May 10 contained an egg nearly ready for the shell.

At Oden we had a similar experience, although there were perhaps fewer Pigeons there than about Cadillac. On May 24 Mr. Dwight settled any possible question as to their breeding in scattered pairs by finding a nest on which he distinctly saw a bird sitting. The following day I accompanied him to this nest which was at least fifty feet above the ground, on the horizontal branch of a large hemlock, about twenty feet out from the trunk. As we approached the spot an adult male Pigeon started from a tree near that on which the nest was placed and a moment later a young bird, with stub tail and barely able to fly, fluttered feebly after it. This young Pigeon was probably the bird seen the previous day on the nest, for, on climbing to the latter, Mr. Dwight found it empty, but fouled with excrement, some of which was perfectly fresh. A thorough investigation of the surrounding woods, which were a hundred acres or more in extent, and composed chiefly of beeches with a mixture of white pines and hemlocks of the largest size, convinced us that no other Pigeons were nesting in them.

All the netters with whom we talked believe firmly that there are just as many Pigeons in the West as there ever were. They say the birds have been driven from Michigan and the adjoining States partly by persecution, and partly by the destruction of the forests, and have retreated to uninhabited regions, perhaps north of the Great Lakes in British North America. Doubtless there is some truth in this theory; for, that the Pigeon is not, as has been asserted so often recently, on the verge of extinction, is shown by the flight which passed through Michigan in the spring of 1888. This flight, according to the testimony of many reliable observers,

was a large one, and the birds must have formed a nesting of considerable extent in some region so remote that no news of its presence reached the ears of the vigilant netters. Thus it is probable that enough Pigeons are left to re-stock the West, provided that laws, sufficiently stringent to give them fair protection, be at once enacted. The present laws of Michigan and Wisconsin are simply worse than useless, for, while they prohibit disturbing the birds *within* the nesting, they allow unlimited netting only a few miles beyond its outskirts *during the entire breeding season*. The theory is that the birds are so infinitely numerous that their ranks are not seriously thinned by catching a few million of breeding birds in a summer, and that the only danger to be guarded against is that of frightening them away by the use of guns or nets in the woods where their nests are placed. The absurdity of such reasoning is self-evident but, singularly enough, the netters, many of whom struck me as intelligent and honest men, seem really to believe in it. As they have more or less local influence, and, in addition, the powerful backing of the large game dealers in the cities, it is not likely that any really effectual laws can be passed until the last of our Passenger Pigeons are preparing to follow the Great Auk and the American Bison.

SOME ACCOUNT OF THE BIRDS OF SOUTHERN GREENLAND, FROM THE MSS. OF A. HAGERUP.

EDITED BY MONTAGUE CHAMBERLAIN.

(*Concluded from p. 218.*)

Haliæëtus albicilla. GRAY SEA EAGLE.—A common resident; breeds. It is most numerous in the vicinity of Ivigtut in winter. On November 24, 1886, some ten or twelve examples were seen, and on December 18, fourteen were counted. It is probable that some migrate here from farther north, and when the weather is bad by the open sea they retire up the fjord, for on both the occasions just noted, their appearance had been preceded by heavy storms of wind accompanied by snow.

This Eagle hunts the Eider much the same as the Greenlander does. The Duck is chased and forced to dive so constantly, and to stay under water so long, that it becomes exhausted, and on remaining on the surface to recover breath and to rest, is captured. Sometimes the Eider will take to the air and then escape, for the Eagle cannot outfly it.

This Eagle also sometimes preys on the Murres.

On May 15 a clutch of eggs was obtained that had been taken from the nest about two weeks previously; they had been sat upon about one week. On June 10 another clutch was secured that had been taken about three weeks, and these were almost wholly incubated. It is probable that nests with fresh eggs can be found in April.

Falco islandus. WHITE GYRFALCON.

Falco rusticolus. GRAY GYRFALCON.— [From skins that have been sent to me by Mr. Hagerup, and which have been examined with Mr. William Brewster's assistance, it is evident that it is to the above species the birds Mr. Hagerup writes of must be referred.—M. C.]

Gyrfalcons reside during the entire year in southern Greenland and breed there, but are met with near the settlement more frequently in winter than in summer; in the latter season they are quite rare.

On June 3, 1886, Mr. Hagerup shot a female in gray plumage with a naked breeding-spot on the breast. In its stomach were feathers and claws of Ptarmigan. The length of this bird was 23 inches, Danish. On August 11 a dark-colored specimen was obtained which measured 19¾ inches. One or two more in dark plumage were seen during the summer. In winter many came from the north, the first, in 1886, appearing on November 24.

In his notes Mr. Hagerup writes :—In November five were seen—all white; in December fifteen or twenty—only one of these was dark-colored; in January twelve—two were dark; in February none; in March two—white; in April four—two dark." From these and other observations Mr. Hagerup has concluded that the white form (*F. islandus*) predominates in winter and the gray form (*F. rusticolus*) in summer.

These Falcons, like the Eagle, are most frequently seen along the upper portion of the fjord after gales or snowstorms.

Mr. Hagerup writes that his Pigeons are very much afraid of these Falcons and on the approach of their dreaded enemy seek the nearest hiding place, but when there is no opportunity to hide they escape by flight, mounting into the air to a great height. It is a grand sight to watch a fierce Falcon chasing a Pigeon through mid-air. As yet, none of the Pigeons have been caught; they seem to understand just how to avoid the Falcon, but it is reported that sometimes young birds have been thus preyed upon.

Those who have watched both the Gyrfalcon and the Peregrine while chasing Pigeons consider that the latter has much the swifter flight and is the more dexterous. During these chases the Falcons often come within gun-shot, but the flight is so swift it is difficult to hit them.

At times the Falcon is followed by a Raven or two, and they swoop after each other, but this seems to be a mere matter of play.

Mr. Hagerup once saw a large Gyrfalcon in very dark plumage on the

ice eating a sea-bird. The Falcon flew to the land with his prey and soon a white-plumaged bird of this same genus came down from the mountain and appeared desirous to join in the feast, but kept at a respectful distance. When the dark bird was approached by the gunner it flew off, carrying its unfinished meal, and the white bird followed steadily on—moving as the location of the feast was moved.

The cry of these Falcons, which is often heard when two or more are in company, is reported by Mr. Hagerup as "a not loud, quivering, lengthened tune, much resembling that of *Falco tinnunculus*."

In 1886 a nest containing three eggs was reached by a Greenlander, on a cliff near Frederickshaab. Mr. Hagerup was informed by Director Möller that this nest was placed on a perpendicular cliff, but a snow drift sloping advantageously enabled the man to reach it.

Falco peregrinus anatum. DUCK HAWK.—Mr. Hagerup has examined several skins that were said to have been taken in the vicinity of Ivigtut. Mr. Kock of Frederickshaab reports taking eleven Gyrfalcons and three Duck Hawks during the winter of 1886–87.

The only one of this species seen near Ivigtut was discovered in the act of chasing the tame Pigeons, and though all the Pigeons escaped from its claws, this Falcon proved more skilful in the art of flying and swifter on the wing than any of the Gyrfalcons that had attempted the same contest.

Nyctea nyctea. SNOWY OWL.—A rare winter visitor. In January, 1886, a nearly white specimen was obtained. He was fierce when wounded and turned to attack the gunner. None are known to have been taken in the vicinity of Ivigtut since that time.

Corvus corax principalis. AMERICAN RAVEN.—This species is a common resident. It is seen and heard daily, and not being very shy is often shot.

The greater part of its food is obtained on the fjord. When an Eagle sits upon the ice it is often attended by one or more Ravens, and these frequently give the Eagle considerable trouble while eating, as the Ravens are not easily repulsed. Occasionally a Raven is captured in a fox trap baited with dried fish or Ptarmigan, but these birds are too sly and shrewd to be caught thus very often, for even if the iron be well hidden in the snow they will rarely touch the bait, be it ever so tempting.

In July and August the old and young of a family roam together—the old birds giving warning of approaching danger; for if at that age the parents do not guard the young, these are easily captured, appearing stupid or reckless.

In flight and in general habits the Greenland bird differs considerably from the Raven that occurs in Denmark.

Mr. Hagerup has taken two nests of the present species. Both were on accessible cliffs—one near to the shore, the other at some sixty feet from sea level.

Acanthis ————? REDPOLL.—[Just what forms of this genus occur in the section of Greenland under present consideration, I have not the material at hand to decide. At the time Mr. Hagerup made the notes on which this paper is based he considered that all the examples he had me

with should be referred to *linaria*. It is, however, but fair to him to state that at that time he had not seen the latest determinations upon this much involved group.—M. C.]

Redpolls are abundant in summer, and breed in all suitable localities. In the autumn of 1886 the majority had left the vicinity of Ivigtut by September 24, but a few were seen much later. On October 26 three or four were observed, and though none appeared in November, on the fifth day of December one was about the village, and three days later some five or six were discovered on the northern side of the fjord, in some bushes close down by the shore, and were seen again in the same place on the following day. Mr. Hagerup considers that in appearance and voice these birds were exactly the same as *linaria*, and he has no reason to think they should be referred to *hornemannii*, which latter Holböll says remains in Greenland all the year, through restricted to the high land.

The first spring arrivals in 1887 were observed on April 24, and the next comers were noted six days later; the latter were some single birds and one party of three. These were flying at an elevation of about one hundred feet, against a W. N. W. wind, and appeared to have come over the high land—from the eastward. On May 6 several appeared in the valley near Ivigtut, and by the 10th of the month these birds were quite common. The flock remained about the village several weeks before they began to build.

On June 21 a nest was found which contained young about ready for their maiden effort on the wing. On the same day another nest was found with one egg in it, and five days later five eggs more had been added, when five were then taken. The parent continued to sit upon the single egg, but when this was taken the nest was abandoned. This bird was remarkably tame, allowing an intruder to approach within arm's length, and then getting out of reach slowly and silently.

These nests, as well as others that were examined, were situated amid the willow thickets, near to running water, and were placed on the lower branches of the bushes, very close to the ground, or in a tuft of grass. They were composed exteriorly of straws,* and lined with whitish vegetable wool and a few white feathers from the Ptarmigan. They were very thick and warm.

During the latter part of June, when the willows are just in leaf, the majority of the young birds are on the wing, and they congregate near the houses and especially on the refuse heaps of the brewery, where they are easily captured. Some eight or ten were taken alive there on the first day of July, 1887. Of these Mr. Hagerup secured an adult male and two young birds, and placed them in a cage by an open window. In a few days an adult female and three young were enticed into the chamber by the prisoners, and were secured. After fourteen days confinement some of the young were given their liberty, but in a few hours they all returned. The principal food given the captives was groats softened in water.

Of the five young birds, four were dressed in brownish gray, the backs

* Probably dried grass is meant.—M. C.

speckled with the darker tint. These with the adult female moulted in July. The fifth young bird was supposed to be a male of the previous year's hatching, differing from the others by being larger and lighter in color. It also had a distinct yellow band on the wings, and the forehead was faintly tinged with yellow; the throat was black. On August 13 this bird had not yet moulted, or else had finished before its capture. In their new dress three of the young wore metallic yellow on the crown, while the crown of the fourth was of a dark reddish tint. All the four became more like the fifth—the immature bird,—their crowns stronger colored, but the black on the throat less decided. The adult female had not at that date finished moulting. She lost the red crown patch—excepting a very small portion, and this was being replaced by yellow, similar to the young. The adult male was moulting and had lost some of his yellow crown. In this bird—the adult male—the upper mandible projects between one and two millimeters, and ends with a hook. The upper mandible is blackish and the under mandible yellow.

During the breeding season these birds are gregarious, and when one utters a note of warning or alarm a dozen or more of its fellows immediately surround it and join in the alarm.

They are very noisy and restless, constantly on the alert, and continually piping or singing, caring little for an intruder, and boldly approaching within a few feet of him. Mr. Hagerup writes that he does not agree with Holböll's opinion that these birds are very wild during the breeding season; they are merely restless, as they are at all times. Mr. Hagerup also differs from Holböll's statement that the males lose the red from the breast and back during the summer, and reports having seen numerous red-breasted birds through the whole summer.

One that was shot on July 2 was highly colored with red. This specimen was not as large as the imprisoned male. About fifteen per cent of the adult (red crowned) birds have red on the breast and rump during the summer months. This red color, Mr. Hagerup considers, may possibly not appear before the bird is several years of age, or may, perhaps, indicate a different race. These questions he will endeavor to determine by further investigations.

The song of the Redpoll, which is uttered both when on the wing and while perching, is a rather mediocre performance, and becomes very monotonous.

Its food in summer consists partly of the fruit and leaf buds of the willow, and partly of insects. The œsophagus of a male shot on July 2 was filled to the throat with small flies.

These birds are not found at a greater height above sea level than 300 to 400 feet.

Plectrophenax nivalis. SNOWFLAKE.—Holböll states that this species remains in Greenland during the winter, though restricted chiefly in that season to the highlands, seldom visiting the lowlands. It does not occur in the vicinity of Ivigtut in winter, but during the summer months is quite numerous and breeds.

In 1887 the first spring arrivals were noticed on March 30, and the next comers on April 3, and five days later a flock of twenty or thirty were seen. These early birds did not remain, but passed on farther north, and the birds that built near Ivigtut did not arrive until the last days of April.

Two nests have been found by Mr. Hagerup at an elevation of some 300 feet, and one at 200 feet above sea level. One, discovered on June 26, 1886, contained very young chicks, and another, taken June 14, 1887, contained young old enough to sit on the edge of the nest. Both nests were situated amid large rocks, and being placed between one and two feet from the top of a high boulder, were hard to reach. They were very solidly built, and were lined with white feathers, probably of the Ptarmigan. Other nests have been found, and while the birds build at different elevations, from close by the margin of the water up to the highlands, the favorite location is about 1000 to 1600 feet up the hillsides.

The parent birds are not at all shy when about the nest, but are rather silent. While Mr. Hagerup was standing near one nest the female flew to it with an insect in her bill, and in another instance the parent entered a nest not ten feet away from the observer. In July the young birds gather about the houses in the village.

"The song of this species," Mr. Hagerup writes, "is euphonic and harmonious; but it is rendered in brief stanzas—there is no continuous melody." "Warbling is, perhaps, the English word that would best represent the character of the song."

In the fall of 1886 the last examples were seen on October 25. In 1887 they were common on October 13.

Calcarius lapponicus. LAPLAND LONGSPUR. — In the vicinity of Ivigtut this is the least numerous of the four species of singing birds that occur. The relative numbers are about one Longspur to five Wheatears, ten Snowflakes, and ten or fifteen Redpolls.

In 1886 the first spring comers were seen on May 24, and in 1887 on May 22. The favorite nesting site is in flat, moist ground covered with grass or low bushes. Mr. Hagerup has not seen any nests at a higher elevation than some 200 feet. In Ivigtut valley, which contains about one third of an English square mile, some six or eight pairs were breeding during the summer of 1887.

A nest discovered on June 16 was placed in deep moss in a moist spot in the valley, on the outskirts of a willow thicket, and in the vicinity of water. It was composed exteriorly of dried grass and roots, and lined with white Ptarmigan's feathers. In it were seven eggs slightly incubated. On July 3 a young bird, that could hardly fly, was captured by a dog.

This species has several alarm notes and calls of which the principal is a rather pleasing, though sad, flute-like note resembling *tloo* or *tlue*. The song, which sounds best when the bird, after mounting up in the sky, drops slowly to the earth with extended motionless wings, is not very long, but has a fine, flute-like tone, and though agreeable to the ear is rather melancholy, as all the notes of this bird are. There is no variation in the song, nor is it repeated with great frequency. It is, however, the finest heard in these wilds.

The Longspur, like all the song birds of the far north, is quite tame and fearless of man, but is less frequently seen in the immediate vicinity of the houses at Ivigtut than the other species are.

Saxicola œnanthe. WHEATEAR.— This is a common summer resident, and breeds here. In 1886 the first reached Ivigtut on April 4, and in 1887 on April 12. In the fall of 1886 the last one, a young bird, was observed on October 5, though the bulk of the flock had gone off several weeks before.

It builds in locations similar to the Snowflake, though it commonly selects a spot under 600 feet high. The situation of the nest is also similar, though the present species goes farther into the heaps of stones—sometimes as much as four feet or more. A favorite situation for the nest is the wall of a house or a stone fence. On June 21, 1886, a nest was found containing chicks about ten days old; and on July 15 another nest was found also containing very young birds. This latter was built quite close to the shore, not more than two feet from high-water mark. A nest taken June 9, 1887, contained eight eggs which had been sat upon about a week; another taken at an elevation of about 600 feet, on June 23, contained seven eggs, and several nests have been obtained from Greenlanders containing sets of six eggs. The Danish, Swedish, and German writers report that the number of eggs in a set in their countries is five to six, seldom seven. In the Faroe Islands this species is reported to lay seven or eight eggs. From these facts Mr. Hagerup infers that these birds thrive best in a low temperature, and in the extreme north lay one egg more than is the rule in Central Europe. From experience thus far in Greenland he is inclined to give the number of eggs as six or seven and occasionally eight, but he thinks it posssible that the past seasons may have been peculiarly favorable for the song birds of that region, for a nest of the Redpoll was discovered with six eggs, the usual number being four or five, and a nest of Longspur's was supplied with seven eggs instead of the customary five or six.

In one particular the Wheatears of Greenland differ from those found in Denmark. The Greenland birds when near their nests utter, besides the usual notes, a loud, clear call which very much resembles the alarm note of the Snowflake. It is used by both males and females.

This species is only seen in pairs excepting occasionally when a single family is met with in one group.

Passer domesticus. EUROPEAN HOUSE SPARROW. — This species was introduced from Denmark several years ago. It has been known to hatch its young in nests built outside of the houses, but it does not thrive in this climate and the number is diminishing, five old males being all that are left of the colony, and these do not move five hundred feet from the houses. Mr. Hagerup considers that the cold has less effect upon them —is less destructive—than the severe and long-continued storms of snow and sleet.

DESCRIPTION OF THE NEST AND EGGS OF *MEGASCOPS ASIO MAXWELLIÆ*, THE ROCKY MOUNTAIN SCREECH OWL.

BY CAPT. CHARLES E. BENDIRE.

THE CREDIT of the discovery of the nest and egg of this race, the handsomest of the genus *Megascops*, belongs, I believe, to Mr. A. W. Anthony, one of our younger and most energetic naturalists, who has done excellent work in his line, as well as in other branches of natural history, in various portions of the West, and has generously donated through the writer a number of his rarest and most interesting specimens to the National Museum collection at Washington. He writes me as follows regarding this species: "On May 4, 1883, while collecting on the Platte River, about six miles from Denver, Colorado, my attention was attracted by the hammering of a Red-shafted Flicker, and pushing my way through a very thick growth of willows and small cottonwoods, I found the bird at work on a cottonwood, where he was excavating a nesting site. The tree was a very large one; its top had been partly broken off, about twelve feet up, blown over, and some of its limbs rested on the ground. As I climbed up, via the leaning top to the *Colaptes* burrow, which was located in that part of the trunk of the tree still standing upright, a Rocky Mountain Screech Owl flew out from a knot hole not before noticed and dashed almost in my face, lit on a tree within six feet of me, and after staring at me in amazement for a few minutes, dropped down and out of sight in the dense undergrowth in the neighborhood. The two burrows were about four feet apart, nearly on a level with each other, but on opposite sides of the tree." The Owl's nest was in an old knot hole about fifteen inches in length and judging from a rough sketch sent me by Mr. Anthony at the time, the base of the nest was almost on a level with the entrance. It contained three young about a week old and an addled egg. This egg was not found until his return to the nest a second time a few hours afterwards, when one of the parents was caught and a careful examination of the nest made. This, if it can be called a nest, was composed of bits of dry rotten wood, a few feathers of small birds, and a good many fish scales. The tree was standing within a hundred yards of the river. Fish of various species

seem to form no inconsiderable portion of the diet of other small Owls as well, as I have personally found on more than one occasion good-sized brook trout (*Salmo purpuratus*) in the burrows used by the Kennicott's Screech Owl (*Megascops asio kenicottii*) in Washington Territory. Just how they manage to catch an active fish like a brook trout if they take them alive, which in my opinion I must confess is very questionable, would be interesting to know.* Mr. Anthony thinks that the Rocky Mountain Screech Owl breeds also in old abandoned nests of the Black-billed Magpie (*Pica pica hudsonica*), and he writes me that he has often found them roosting in them both in winter and spring, and has found the American Long-eared Owl (*Asio wilsonianus*) breeding in such nests.

Mr. Denis Gale of Gold Hill, Colorado, has taken several nests of this bird during the last three years, and finds them not at all uncommon in his vicinity. A set of four eggs, now before me, was found by him on April 20, 1886, on Boulder Creek, near Boulder City, Colorado. He writes me regarding these eggs as follows: "Judging from the different stages of advancement in the embryos, I am inclined to think that they were laid at intervals of from forty-eight to seventy-two hours and the eggs were covered continuously from the time the first one was laid. The burrow used for a nesting site by this pair of birds was an old Flicker's hole, in a cottonwood tree, about twenty feet from the ground. There was nothing between the eggs and the bare wood bottom on which they lay that bore the semblance of a nest, excepting a little wood dust and a few wing and tail feathers of the Arctic Bluebird and several species of Sparrows. These feathers were without doubt the remnants of birds fed to the sitting female by her mate, the soiled and stained eggs showing plainly their coming in contact with the mangled food, devoured over them." The female covered her eggs with great persistency and was only removed off them by force, snapping her bill and using her sharp claws with great energy when handled. Mr. Gale tells me that besides small birds, several species of the smaller rodents, frogs, and crawfish also form part of their bill of fare.

* Since this article has been written, I notice that this fishing propensity is not confined to the two races mentioned therein, but is common to the Eastern form as well. See M. A. Frazar in Bull. Nutt. Ornith. Club, Vol. II, No. 3, July, 1877, p. 80, and Willard E. Treat in 'The Auk,' Vol. VI, No. 2, April, 1889, p. 189.

Mr. Gale writes further as follows: "Rarely does this species follow the creeks far into the foot-hills; I have not observed them at 6000 ft. altitude. Like others of their genus, they seem to delight in a sheltered, shady location, close to a pond or creek. where they select a domicile, either in a natural tree hole or in a Flicker's old nest site. If for any reason the Flicker wishes to retain his previous year's nest site, and Scops is in possession, strife is carried on between them with great address, ending as often in favor of one as the other, judging from the broken eggs upon the ground ejected by the victor. The Flicker dares not enter, to turn Scops out, but if the premises are vacated for ever so short a time, he enters, and holds them against all comers; his formidable bill pointing out at the door is sufficient apology for leaving him in quiet possession.

"About the middle of April is the usual period for the eggs, which are from three to five in number. The nest is usually a sparse gathering of wing and tail feathers of small birds; in some instances no litter of any kind is present; as a rule the first two or three eggs are laid on consecutive days, with intervals of two, three or more days between the third, and last one, or two, as the case may be. The female is always in charge, and at no time leaves the nest while sitting, or while her brood is very young; she is waited upon, and fed by the male, who, being a skilful hunter, provides liberally for her wants. Searching for nests, I have sometimes discovered the male hidden in a tolerably well stocked larder, in close proximity to the nest site. In one cache were portions of a Bluebird, a mouse, and a frog; in another a Junco, a tree Sparrow, and a minnow three and a half inches long; claws and legs of crawfish were also present. In a few cases I have discovered the male sitting upon a bough close to the stem of a cottonwood tree, perfectly motionless, with eyes almost closed as if asleep, the pupil of the eye closed to the merest slit, but with ears erect, and all alive to the danger threatening his sitting mate close by; in this well selected position, his color and markings so nearly resembling the rough, corrugated bark of the tree, he seemed to have the fullest assurance of security against observation.

"The female is a close sitter; to induce her to leave her nest is a difficult matter, unless she has been frequently disturbed and understands what is meant when she hears the tree grappled in

climbing it; she will then fly out. Otherwise you have to take her off her eggs. In some instances she will feign dead, and lie on her back in your open palm with her eyes shut; immediately you throw her off, however, she will right herself on wing, and gaining a bough upon a neighboring tree, will crouch forward, bending her ear-tufts back, and look very spiteful and wicked. At other times when removed from her eggs she will snap her bill, moan slightly, and show fight. Both male and female indulge in the screech which differs but little from that of their Eastern cousins; its sharp distressing notes can be heard of a still night, a mile distant.

"The lately hatched young are clothed in beautiful white down. In the latter part of June before they are well able to fly, they may be seen sitting side by side, perfectly motionless, upon a limb close by the nest-site. The young and their parents as well seem to desert their holes and live among the trees for the balance of the summer; but against the cold winds that strip the leaves off the trees in the fall, suitable tree holes are selected for their winter quarters."

While stationed at Fort Custer, Montana, during the winter of 1884-85, I took five of these birds, but was unable to find their nests. I discovered their presence there quite accidentally. On Dec. 1, 1884, while out hunting Sharptail Grouse (*Pediocætes phasianellus campestris*) in a bend of the Bighorn River, a few miles south of the Post, as I was walking by a thick clump of willows I indistinctly noticed a whitish-looking object dropping on the ground, apparently out of the densest portion of the thicket and on the opposite side from where I was standing at the time, and simultaneously heard several plaintive squeaks from that direction. Carefully skirting around the thicket, which was some twenty yards long and perhaps five wide, I saw the object of my search savagely engaged in killing a meadow mouse which it had just captured. I promptly shot it. It proved to be a female and excessively fat, in fact all the specimens I secured subsequently, showed conclusively that they managed to secure an abundance of food in that Arctic winter climate, and that a portion of this at least, seems to be obtained in the daytime. The four other specimens collected by me were all obtained in similiar locations. I have no doubt that it breeds in the vicinity of Fort Custer, but I lost all trace of these birds in the spring months and failed to hear

their love notes at that time. It is possible that they retire a little nearer to the mountains to breed. This is, up to date, the most northerly locality recorded at which the Rocky Mountain Screech Owl has been obtained.

Their eggs are pure white in color with little gloss; in shape they are elliptical oval, in fact decidedly more elongated than the eggs of the other races of *Megascops*, which are almost invariably perfectly oval in shape, and some almost spherical. The usual number laid to a set seems to be four. The first specimen, No. 22,450 National Museum collection, measures 1.48 × 1.16 inches. The set from Boulder Co., Colorado, collected by Mr. Gale, No. 22,931 National Museum collection, measures 1.60 × 1.18, 1.57 × 1.16, 1.49 × 1.17, 1.46 × 1.17 inches. Thirty-eight eggs taken by Mr. Gale average × 1.44 1.18 inches. These eggs were in ten sets; three sets consisted of three eggs each, six of four, and one of five.

NOTES ON BIRDS OBSERVED IN THE VICINITY OF ENGLEWOOD, NEW JERSEY.

BY FRANK M. CHAPMAN.

UNDER this title it is my object to present certain observations which seem worthy of record, and, for the sake of completeness, to include several notes which have before appeared in the pages of this journal. To the gentlemen, below mentioned, who have assisted me I desire to express my sincere thanks.

1. **Anas penelope.** WIDGEON. — This accidental visitor from the Old World was killed by Mr. Cornelius Demarest in the spring of 1880 or 1881; the specimen I have not seen, but Mr. Demarest's great familiarity with the Ducks which occur here, acquired during many years of experience, his identification of the bird at the time of capture, his accurate description of it now, and the fact of its being killed from a flock of three American Widgeon (*Anas americana*), all combine to render this record worthy of entire acceptance.

2. **Ectopistes migratorius.** PASSENGER PIGEON.—During the twelve years in which I have hunted in this locality I have found but two birds of this species, killed in September, 1878.

3. **Strix pratincola.** AMERICAN BARN OWL.—In 'The Auk' for October, 1886, p. 485, I recorded the occurrence at Englewood of a Barn Owl observed on August 26 of that year, its identity being made known by several feathers found beneath the tree from which it was startled. Since that date the ground in the vicinity has been the subject of more or less expectant observations, but not until August 19, 1888, were they attended by success. Then, as before, the ground and foliage beneath the same tree were found well sprinkled with droppings, and search revealed three unmistakable Barn Owl feathers, one a secondary. On this occasion the hour was much later—midday—and no bird was seen, but the unsoiled condition of the feathers and the fact that some of the droppings were on the upturned *under* side of a leaf from a recently broken but still unwithered weed, showed that the bird had only recently departed. Frequent returns were made to this spot and although it was evident that for a few days the bird still lingered in the vicinity my best efforts to find him at home resulted only in failure, and a seductively baited trap met with no better success.

4. **Ceophlœus pileatus.** PILEATED WOODPECKER.—I have in my collection a male of this species taken in September, 1885, by Mr. Jacob Ullrich on the Palisades at Englewood.

5. **Scolecophagus carolinus.** RUSTY BLACKBIRD.—Three individuals were shot from a small flock of five or six, December 24, 1884, the only occasion on which I have observed this species here during the winter.

6. **Chondestes grammacus.** LARK FINCH.—The capture of a male of this species was recorded in 'The Auk' for January, 1886, p. 136.

7. **Ammodramus maritimus.** SEA-SIDE FINCH.

8. **Ammodramus caudacutus.** SHARP-TAILED FINCH.—On the west shore of the Hudson River, some twenty-five miles from its mouth, at Piermont, N. Y., there is a large tract of salt meadow several hundred acres in extent. Acting on a suggestion from Dr. A. K. Fisher, who predicted the occurrence of both the above-mentioned birds there, the locality was visited July 2, 1887, and the prediction fully verified, both species being found abundant and evidently breeding. Later, September 24 of the same year, young in first plumage were secured. While we may not unnaturally expect these maritime birds to follow up large tidal streams, the present locality is, so far as I am aware, the only one in the Hudson River Valley in which they are known to breed, although there are other marshes in every way as favorable for their occupation.

9. **Spizella pusilla.** FIELD SPARROW.—Two males of this species were taken December 25, 1885, the latest date at which I have observed them.

10. **Tachycineta bicolor.** WHITE-BELLIED SWALLOW.—The following record given me by Mr. Richard Demarest of Englewood, I can fully vouch for. On December 31, 1882, "an unusually warm day for the season" Mr. Demarest found a flock containing "thousands of Swallows"; many were in the air and others were perched on the bayberry bushes which abound in the locality. So abundant were these perching birds that in two shots Mr. Demarest killed thirteen and these he took to the village to prove

a statement he quite naturally supposed would be disbelieved. While I did not see these birds, Mr. Demarest's description and the fact that they were found alighting on bayberry bushes, on the fruit of which they were probably feeding, leaves no doubt as to their identity.

11. **Lanius ludovicianus.** LOGGERHEAD SHRIKE.—August 24, 1888, a male of the year of this species was taken at Tappan on the New York-New Jersey State line. Mr. C. K. Averill records the capture of an immature bird of this species at Bridgeport, Connecticut, August 29,* 1888, and Mr. Dutcher a second from Suffolk Co., L. I., August 28, 1888.† These three captures of young birds at different localities so near the same date in connection with previous records would suggest migration of this species from the *north* during the latter part of August.

12. **Helminthophila leucobronchialis.** BREWSTER'S WARBLER.—The capture of three specimens of this puzzling hybrid has been before recorded.‡

13. **Helminthophila ruficapilla.** NASHVILLE WARBLER.—In a paper read before the Linnæan Society of New York, December 7, 1888, I presented the following record: §

"The circumstances attending the capture of a female Nashville Warbler on June 16, 1887, strongly indicate that the bird was breeding here; the sharp *chip* and anxious appearance of the bird, the shrivelled skin and absence of feathers on the abdomen and lower breast, I considered excellent evidence that there was a nest somewhere in the vicinity, which, however, careful search failed to reveal. Mr. J. A. Allen, to whom I showed the specimen in the flesh agreed with me that in all probability it was a breeding bird."

14. **Geothlypis formosa.** KENTUCKY WARBLER.—In the paper above referred to I also recorded the Kentucky Warbler as a rather rare but regular summer resident on the Palisades at Englewood, a single nest containing five nearly grown young having been found June 16, 1886.‖

15. **Mimus polyglottos.** MOCKINGBIRD.—I take from my note-book the following record concerning the breeding of Mockingbirds at Tenafly, N. J., three miles north of Englewood. These notes were given me by Mr. Martin, an old resident of the locality, and are corroborated by Mr. J. F. Paulison on whose lawn the birds were found nesting. After learning of their occurrence I visited the place on a number of occasions in what proved to be a vain hope of seeing these birds, but so far as known they did not return after the year 1885. Mr. Martin's story as I received it from him January 3, 1886, is substantially as follows: Ten or twelve years ago a pair of Mockingbirds appeared on Mr. Paulison's lawn, but a short distance from Mr. Martin's home; he watched their movements and discovered their nest, placed in an evergreen about ten feet from the ground.

---

* Auk, VI, Jan., 1889, p. 74.
† Ibid, April, 1889, p. 138.
‡ Auk, IV, 1887, p. 348.
§ See also Auk, VI, April, 1889, p. 198.
‖ See also Auk, VI, April, 1889, p. 198.

When three eggs had been laid the female was killed, a few feathers found near the nest suggesting a cat as the probable murderer. The male, however, remained in the vicinity for several weeks, singing at times continuously for an hour or more; but apparently becoming discouraged at the non-appearance of his mate, he finally disappeared. Not another bird of this species was observed until May, 1884, when a pair was seen in the same garden and observed constructing a nest in a rose bush. Here they were undisturbed until their young, four in number, were nearly ready to leave the nest; these young were then taken and successfully raised in confinement. April 17, 1885, a Mockingbird, presumably the male, was seen in the same locality; later its mate appeared. The male was frequently heard singing, and although the nest was not found, young birds were seen, and there is little doubt that this time they succeeded in raising their brood. So far as I have been able to ascertain the birds have not been observed in the locality since this last-mentioned occurrence.

16. **Harporhynchus rufus**. BROWN THRASHER.—An individual of the species was taken January 31, 1885.

17. **Thryothorus ludovicianus**. CAROLINA WREN.—A bird of this species was observed by me September 20, 1885, in a low wet wood, and presumably the same individual was frequently seen or heard in the same locality until November 20, when an examination showed it to be a male of the year. I have also records of single birds observed on April 24, 1886, and September 22 of the same year.

18. **Parus bicolor**. TUFTED TITMOUSE.—August 19, 1888, I secured a male of the year of this species. On at least two previous occasions I have seen or heard single individuals in the same wood in which the one above recorded was captured.

19. **Polioptila cærulea**. BLUE-GRAY GNATCATCHER.—Mr. John G. Bell, the well known naturalist-taxidermist, informed me during a recent visit I had the pleasure of making him that he had taken an individual of this species near his home at Piermont, N. Y., in March—the year he could not remember.

NOTES ON THE BLUE-WINGED WARBLER AND ITS ALLIES (*HELMINTHOPHILA PINUS*, *H. LEUCOBRONCHIALIS*, *H. LAWRENCEI*, AND *H. CHRYSOPTERA*) IN CONNECTICUT.

BY EDWIN H. EAMES.

I TAKE pleasure in recording my experience with a few of the *Helminthophilæ* in southern Connecticut during the season of 1889, inasmuch as their matrimonial affairs have become in-

tricately involved and highly perplexing. The geographical seat of the trouble seems to be centred in the small State of Connecticut and the country adjoining on the north and west.

Our little favorite *Helminthophila pinus* is probably as abundant in the southern part of this State, and in the river valleys northward to Massachusetts, as in any other part of its range, it extending its way still further north to a point as yet but poorly defined.

Of *H. chrysoptera* but little can be said, as it is properly considered a rather rare bird here, and our yearly records are but few, usually less than half a dozen.

The beautiful *H. leucobronchialis* is much (?) more common than the latter, and is eagerly sought after by most of our collectors, latterly with good success, considering its former (supposed) rarity. The section of country above accorded to *pinus* seems to be the metropolis of this species, or else we have here more enthusiastic collectors. The same is also true of *H. lawrencei*. My observations last year served to acquaint me with its traits of character and style of song, so that on the 6th of May I was prepared to recognize the song of *leucobronchialis*, when I heard it. It was a typical bird, and was first heard and then seen in an apple tree whose branches almost touched a house. It was so tame at first that I could almost catch it in a hand net, and although it was several times disturbed, showed no desire to feed in other than apple trees.

My earliest record of *H. pinus* was made on the following day, but on the 9th they were surprisingly common, as at one time (midday) I distinctly heard seven singing at one time, and could see five by merely turning around. During a walk of a few hours that day I counted 60, which was considerably short of the actual number seen. Judging from a few I shot and from others I critically examined, and from their songs, they were all males, the first female not appearing until the second day following. I have never before seen as many in the same length of time, but for years have considered them common, even fifteen miles north of Bridgeport.

The only *H. chrysoptera* I have seen this season was a male I killed on May 14, in full song; I killed also a male *H. leucobronchialis* on the same morning, also in full song. One bright male *H. lawrencei* found its way into my collection, May 16, after

favoring me with its song and a little of its shyness for an hour or two. This bird was in a small but dense swamp, and kept among the higher branches in the centre, with occasional forays to the edge.

May 17 I badly wounded a third *leucobronchialis*, which was not secured, although I closely marked where it fell. It was well marked with yellow on the fore-breast and a paler wash elsewhere except on the lower throat which was pure white; otherwise it was typical.

May 21 I saw another *leucobronchialis* which was beyond my reach, being under the immediate protection of a guardian of the City water works. Having obtained his permission to shoot it, the following morning it fell a prey to my desires, and proved to be a very handsome specimen of this form. Not until June 11 did I take another, which proved to much resemble *pinus*.

Mr. C. K. Averill, Jr., of this city, found a *leucobronchialis* early in June, he being attracted to it by its song. Two days later he failed to find it. June 24 I accompanied him to the place and we soon had the pleasure of watching the bird at shorter range than I think has fallen to the lot of others, *i. e.*, three to ten feet, for so long a time that our patience gave out with the daylight. Previous to this it was necessary to watch his actions at a greater distance, as he (for it proved a male) was feeding young, how many we never ascertained, probably but one.

It came to the same conspicuous clump of bushes and briars many times, with from one to five minutes intermission, each time with one or more small green worms, about three quarters of an inch long, first reconnoitring, then cautiously approaching, and again hastily leaving a part of this clump of bushes not over two feet in extent. We failed to discover the identity of the object of its cares, but I have reason to believe it was a young Cowbird. The rest of this brood was being fed by the only *H. pinus* (a female) to be found in the neighborhood. These young were, I thought, a little too demonstrative when parental attention was bestowed upon them. At this date they could fly well, and gleaned much food for themselves. They showed a marked general similarity to the young of *pinus*. I shot this male *leucobronchialis* August 8 and also one of the young, carefully observing that the others were similar to the one killed, which was altogether too familiar with the adult bird to allow a possibility of doubt concerning its male parent.

In this, as in many other species of our smaller birds, such an affection is shown for the haunts occupied during the nesting period that they rarely leave them until after moulting, or even till the commencement of the fall migration. In the above case I never failed to find the birds within the bounds of a two-acre tract of land.

Some of the characteristics of these species and varieties may be of interest, and I will confine myself to the past two years' observations in Bridgeport and Seymour.

On their arrival, which occurs in the second week of May, they (*lawrencei?*) show a great fondness for orchards, chiefly apple, feeding among the blossoms in a manner so leisurely as to be very unlike that of other Warblers, being expressive of a serene content. In numberless instances I have known single birds to remain in one tree upwards of an hour, and then seem to regret leaving it for another.

From the 15th to the 20th of May they become settled for the season in well-defined haunts, which may be broadly said to be adjoining woods in a clearing on which is much 'scrub,' or perhaps a three to five years' growth of 'sprouts,' with some grass, briers, etc. This frequently, but not always, adjoins swampy ground. They are rarely to be found in deep woods, except on the edge, where they spend much time among the higher branches.

When the nest of *H. pinus* contains eggs, it is difficult to find, as the male ranges over quite an area. The nest is as conspicuous and bulky as a Maryland Yellow-throat's. It is variously situated — in the edge of a thicket, at the foot of a brier, etc., or quite as often in a clump of golden-rod (*Solidago*). I have seen one nest, with young, placed on a bog in the edge of swampy woods. This bog was surrounded by eight inches of water.

Normally the nest rests but lightly on the ground, and measuring about four and a half inches deep externally, depends largely on surrounding grasses for concealment, fallen leaves being inconspicuous about it. The full complement of four or five eggs has generally been completed by June 1, and I have seen young ready to leave the nest by June 10.

I have been strongly impressed with the necessity of learning the songs of these birds, inasmuch as a large share of my success hangs on this very point. In all, the *z* sound is a strong feature and very characteristic.

The song of *H. chrysoptera* consists normally of four notes—*shree-e-e, zwee, zwee, zwee*,—the first, about two notes higher than the following three, being slightly prolonged. It is varied somewhat at times, with the second note like the first; again it is reduced to three, two, or even a single note. The song will immediately attract attention from its very oddity. By some it is considered harsh, but to me it has a soft penetrating quality unexcelled, this effect being heightened by the uncertain source of the song.

Seven birds, typical of *H. leucobronchialis*, expressed their good spirits by precisely the song of the preceding (*H. chrysoptera*) except in one trifling point. Another, with a bright yellow breast-patch, had, in addition, a few original variations of its own. Still another, with a close resemblance to *H. pinus*, repeated songs of *H. chrysoptera* only, but they were all harsh and disagreeable in comparison. This bird was shot almost within a stone's throw of the supposed nesting site of *H. leucobronchialis* spoken of in 'The Auk' (Vol. V, pp. 427-428). A perfectly typical bird repeated but one style of song. This surprised me greatly, it being precisely the same as the common song of *H. pinus*. I heard this many times on two different occasions before shooting the bird, and it was always the same. But one more bird, with a faint greenish yellow color on the back, a strong patch of yellow on the breast, and a wash elsewhere on the under parts, used the latter song exclusively.

The only *H. lawrencei* I ever knowingly listened to, as before mentioned, favored me with its song for nearly two hours, and during the several hundred repetitions, it never varied in the least particular from the characteristic song of *H. pinus*, its song consisting of two drawling notes, *see-e-e-e, zwee-e-e-e-e*, with a very decided *z* sound. The first series is somewhat higher pitched than the last and hardly as long continued. To this, in *H. pinus only*, is sometimes added a third note of about the same length as the first, and very similar. Occasionally the first note only is uttered. When there are three, the second is sharply and quickly given. Another song quite often heard is strikingly similar to that of the Nashville Warbler, but still retains enough of its own peculiar sound to make identification positive in every case. Of several other songs, none of which are commonly heard, one is best represented by *swee-e-e, kik, kik, kik, kik*.

The following were characteristic of certain birds only and noted to be the same on several different occasions. One bird regularly repeated the trill of the Chipping Sparrow after its own, with no variations unless slightly shortened. *Two* others were often heard to repeat a song reminding me strongly of one of the Parula Warbler's, but they repeated their own much more frequently than this.

During the height of the season *H. pinus* may be heard repeating its song with great regularity from four to five times per minute, by the hour, with scarcely a break. This is to be noticed during the extreme heat of midday just the same as at other times, its search for insects being at the same time uninterrupted. I have quite often heard them during hard showers, not an occasional repetition merely, but with a persistent regularity. This applies to *H. leucobronchialis*, and presumably to *H. chrysoptera* as well, except that in the two latter only two or three repetitions per minute is the rule. Nearly two entire songs of the latter *can* be rendered in the time occupied by *H. pinus* for one. In many of these birds there is a tendency to extreme shyness upon the slightest attempt at familiarity, and often without any provocation, as I have many times been made aware. On many occasions my best endeavors have been unequal to the task of closely scrutinizing the author of any of these songs unless I had the patience to watch him from one to three hours, and even then a field glass would be necessary to see him clearly.

Even *H. pinus* may be called rare by those who possess excellent eyesight, provided they have ears poorly trained, and I will venture the assertion that nine out of every ten birds will escape them. I have more than once seen proof of this in those who were desirous of becoming well acquainted with the species.

LIST OF THE BIRDS OF FULTON COUNTY, KENTUCKY.

BY L. OTLEY PINDAR.

FULTON COUNTY lies in the extreme southwestern corner of Kentucky. Nearly all the notes from which this list is composed

were made at Hickman, on the Mississippi River. The other localities mentioned are situated as follows: Alexander Station (also known as Crutchfield and Slapout) is in the northwestern part of Fulton County on the Illinois Central Railroad. Woodland Mills is in Obion County, Tennessee, about a mile from the State line, on the Nashville, Chattanooga and St. Louis Railroad. Reelfoot Lake lies between Obion and Lake Counties, Tennessee, a small portion of the lake extending into Fulton County. Number 8 Chute lies between Island Number 8 and Kentucky, ten miles west from Hickman. The country is well wooded in all portions with which I am familiar, some of the more important trees being ash, beech, black gum, butternut, cottonwood, cypress, elm, hackberry, hickory (several varieties), Kentucky coffee tree, locust, red and white oaks, pecan, persimmon, poplar (tulip), sassafras, sweet gum, and walnut.

I have prepared two lists of Fulton County birds before this. One was published in the 'Ornithologist and Oölogist' for April and June, 1887, the other was read before the fifth meeting of the American Ornithologist's Union in Boston, October, 1887. Both of these lists contained several errors, all of which, it is believed, are eliminated from the present one, which also comprises a number of additional species. For much valuable help in the study of the avifauna of this region I am indebted to Mr. R. Ridgway of Washington, D. C., Mr. O. Widmann of St. Louis, Mo., Prof. B. C. Caldwell, formerly of Hickman, now of Glasgow, Mo., and also to those whose names appear later on in the list, to all of whom I take this opportunity of rendering my thanks.

1. **Podilymbus podiceps.**—Common in winter. A few remain through the summer.

2. **Urinator imber.** WAR-LOON. WALLOON.—Said to occur regularly every winter. I have never seen it.

3. **Larus argentatus smithsonianus.**—Common winter visitant.

4. **Larus delawarensis.**—Winter visitant. Not common.

5. **Larus atricilla.**—Summer would be the time to expect to see this bird, but the only one I have positively identified was seen January 8, 1887.

6. **Larus franklinii.**—Occasionally seen in winter.

7. **Gelochelidon nilotica.**—Summer resident. Not common.

8. **Sterna forsteri.**—Summer resident. The commonest of our 'Sea Swallows.'

9. **Sterna hirundo.**—Rare summer resident.

10. **Anhinga anhinga.**—Abundant in spring and fall; common in summer; a few winter.

11. **Pelecanus erythrorhynchos.**— Not rare during the migrating season. A few are said to remain all winter on a small lake in Missouri, just across the river from Hickman.

12. **Merganser americanus.**—Winter visitant. Not common.

13. **Merganser serrator.** FISH DUCK. JACK.—Common winter visitant.

14. **Lophodytes cucullatus.**—Rare resident.

15. **Anas boschas.**—Abundant winter visitant. Occasionally one or two may be found during the summer.

16. **Anas obscura.** BLACK JACK.—Winter visitant. Not very common.

17. **Anas carolinensis.**—Common winter visitant.

18. **Anas discors.**

19. **Dafila acuta.**—These two Ducks are common throughout most of the winter, but do not remain in the coldest weather.

20. **Aix sponsa.**—Common resident.

21. **Aythya americana.**—Mr. A. J. Taylor has seen two that were killed on Reelfoot Lake, Tenn.

22. **Aythya vallisneria.**—Rare winter visitant.

23. **Aythya marila nearctica.**—Common transient.

24. **Charitonetta albeola.**—Rare winter visitant.

25. **Branta canadensis.**—Common winter visitant. A few breed. See 'Auk' Vol. III, p. 481.

26. **Olor ——?**— I saw two Swans in November or December, 1885, but could not determine the species.

27. **Tantalus loculator.** GOURDHEAD.— Common summer visitant. I do not think it breeds. See 'Ornithologist and Oölogist,' Vol. XII, p. 166.

28. **Botaurus lentiginosus.**—I have good authority for its occurrence in winter but have never detected it personally.

29. **Ardea herodias.**—Quite a common summer resident.

30. **Ardea egretta.**—In the fall of 1885 I was shown the long tail-feathers of one said to have been killed near Hickman.

31. **Ardea candidissima.**—Summer resident, growing commoner every year.

32. **Ardea virescens.**—Rare. A dead one seen September 1, 1887.

33. **Grus americana.**—Very rare. One seen August 26, 1886.

34. **Fulica americana.** MOTHER CAREY'S CHICKEN. CHICKEN-FOOTED DUCK.—Common resident.

35. **Phalaropus tricolor.**—Common migrant.

36. **Philohela minor.**—Very rare. One seen near Alexander Station, March 15, 1888.

37. **Gallinago delicata.**—Rare migrant. In 1886 I saw it as early as August 2.

38. **Tringa maculata.**—Common migrant.

39. **Symphemia semipalmata.**—I saw two, and a man with me killed one, on No. 8 Chute, November 17, 1887.

40. **Actitis macularia.**—Common migrant.

41. **Ægialitis vocifera.**—Common resident.

42. **Colinus virginianus.**—Common resident.

43. **Meleagris gallopavo.**—Common resident. A set of ten fresh eggs was brought to me April 30, 1887.

44. **Ectopistes migratorius.**—Migrant; growing rarer yearly.

45. **Zenaidura macroura.**—Common resident.

46. **Cathartes aura.**—Common resident.

47. **Catharista atrata.**—Rare and irregular. Occurs at any time of the year.

48. **Elanoides forficatus.**—I saw eight or ten near Woodland Mills, Tenn., August 9, 1886.

49. **Ictinia mississippiensis.**—Several seen near Hickman and in Obion Co., Tenn., in August, 1886.

50. **Circus hudsonius.**—Migrant. Not common.

51. **Accipiter velox.**—Common resident.

52. **Accipiter cooperi.**—Common resident.

53. **Accipiter atricapillus.**—Very rare. Occasionally one strays into our limits during the winter.

54. **Buteo borealis.**—Common resident.

55. **Buteo lineatus.**—A rare migrant.

56. **Buteo swainsoni.**—Rare resident.

57. **Haliæëtus leucocephalus.**—Rare resident.

58. **Falco columbarius.**—Rare winter visitant.

59. **Falco sparverius.**—Common resident.

60. **Strix pratincola.**—Said, by Prof. B. C. Caldwell, to occur. I have never seen it.

61. **Asio accipitrinus.**—Very rare winter visitant.

62. **Syrnium nebulosum.**—Common resident.

63. **Megascops asio.**—Common resident.

64. **Bubo virginianus.**—Resident. Not uncommon.

65. **Conurus carolinensis.**—Formerly very common according to all reports, and stragglers are said to have occurred up to 1878.

66. **Coccyzus americanus.**—Common summer resident.

67. **Coccyzus erythrophthalmus.**—Very rare. One killed July 16, 1886.

68. **Ceryle alcyon.**—Common summer resident. A few winter.

69. **Campephilus principalis.**—Said to have been common formerly. Mr. A. J. Taylor saw several five or six years ago.

70. **Dryobates villosus.**—Rare resident.

71. **Dryobates pubescens.**—Common resident.

72. **Dryobates borealis.**—A very rare straggler.

73. **Sphyrapicus varius.**—A not uncommon resident.

74. **Ceophlœus pileatus.**—WOODCOCK. COCK-OF-THE-WOODS. BETTY-BIRD.—Resident. Not rare.

75. **Melanerpes erythrocephalus.**—Common except in the depth of winter when they all leave for three or four weeks.

76. **Melanerpes carolinus.**—Common resident.

77. **Colaptus auratus**—.Common resident.

78. **Antrostomus vociferus.**—Very rare. I saw one fly across the State line road, from Kentucky to Tennessee, Oct. 7, 1887.

79. **Chordeiles virginianus.**—Common transient.

80. **Chætura pelagica.**—Common summer resident.

81. **Trochilus colubris.**—Common summer resident.

82. **Tyrannus tyrannus.**—Common summer resident.

83. **Myiarchus crinitus.**—Summer resident. Growing more common every summer.

84. **Sayornis phœbe.**—Common summer resident.

85. **Contopus borealis.**—Rare migrant.

86. **Contopus virens.**—Common migrant. A few remain through the summer.

87. **Empidonax flaviventris.**—An uncommon migrant.

88. **Empidonax acadicus.**—Summer resident. Not very common.

89. **Empidonax pusillus traillii.**—A common migrant and rare summer resident.

90. **Empidonax minimus.**—Rare migrant. I do not think it remains through the summer although I saw it as late as May 20, in 1887.

91. **Cyanocitta cristata.**—Common resident.

92. **Corvus corax sinuatus.**—Very rare. One seen Oct. 3, 1887.

93. **Corvus americanus.**—Common resident.

94. **Molothrus ater.**—Said by several persons to have been common eight or ten years ago.—Cannot be found now.

95. **Agelaius phœniceus.**—Common resident. Especially abundant during migrations.

96. **Sturnella magna.**—Common resident.

97. **Icterus spurius.**—Rare migrant.

98. **Icterus galbula.**—Common summer resident.

99. **Scolecophagus carolinus.**—Common winter visitant.

100. **Quiscalus quiscula.**—Resident. Common, especially in winter.

101. **Quiscalus quiscula æneus.**— Resident. Our commonest Black bird. Abundant during the winter. Both this subspecies and the last breed here, *æneus* far outnumbering *quisculā*. They never breed together, each keeping strictly to itself in the breeding season.

102. **Coccothraustes vespertina.**—Quite common in March, 1887. See 'Auk,' Vol. IV, p. 257.

103. **Pinicola enucleator.**—Seen in February and March, 1888. See 'Auk,' Vol. V, p. 321.

104. **Carpodacus purpureus.**—Migrant. Not common.

105. **Acanthis linaria.**—Common in the coldest weather every winter since I began taking notes in 1885.

106. **Spinus tristis.**—Common resident.

107. **Spinus pinus.**—Common winter visitant.

108. **Poocætes gramineus.**—Common migrant.

109. **Chondestes grammacus.**—Summer resident. Not common.

110. **Zonotrichia leucophrys.**—An uncommon winter visitant.

111. **Zonotrichia albicollis.**—Common winter visitant.

112. **Spizella monticola.**—Winter visitant. Not common.

113. **Spizella socialis.**—Common during the summer. Usually a few remain all winter in sheltered spots.

114. **Spizella pusilla.**—Common resident.

115. **Junco hyemalis.**—Common winter visitant.

116. **Melospiza fasciata.**—Common in winter.

117. **Passerella iliaca.**—Common winter visitant.

118. **Pipilo erythrophthalmus.**—Common in winter. A few remain through the summer.

119. **Cardinalis cardinalis.**—Common resident.

120. **Habia ludovicana.**—Migrant. Not common.

121. **Guiraca cærulea.**—Very rare summer visitant.

122. **Passerina cyanea.**—Common summer resident.

123. **Spiza americana.**—Very rare migrant.

124. **Piranga erythromelas.**—Very rare. I have seen three males, one in June, 1884, one August 7, 1887, and one August 13, 1888. I killed a female October 2, 1888.

125. **Piranga rubra.**—Common summer resident.

126. **Progne subis.**—Common summer resident.

127. **Petrochelidon lunifrons.**—Rare summer resident.

128. **Chelidon erythrogaster.**—Common summer resident.

129. **Tachycineta bicolor.**—Summer resident. Not common.

130. **Clivicola riparia.**—Common summer resident.

131. **Stelgidopteryx serripennis.**—Common summer resident.

132. **Ampelis cedrorum.** RICE-BIRD.—Common. Occurs irregularly at any time of the year.

133. **Lanius borealis.**—I have never seen any of the Shrikes here, but have Professor Caldwell's authority for the occurrence of *L. borealis* in winter.

134. **Vireo olivaceus.**—Common summer resident.

135. **Vireo philadelphicus.**—Rare migrant.

136. **Vireo gilvus.**—Rare migrant.

137. **Vireo flavifrons.**—Summer resident. Not common.

138. **Vireo noveboracensis.**—Common migrant.

139. **Vireo bellii.**—Very rare. Two seen, and one of them secured, July 16, 1887.

140. **Mniotilta varia.**—A not very common summer resident.

141. **Protonotaria citrea.**—Summer resident. Not common.

142. **Helinaia swainsonii.**—I am certain that I saw one August 29, 1887, but my only shell was loaded with No. 1 buckshot, and I failed to secure it. However, I have no doubt as to its identity.

143. **Helmitherus vermivorus.**—Rare summer resident.

144. **Helminthophila chrysoptera.**—Rare migrant. In 1887 I saw it as late as November 14.

145. **Helminthophila ruficapilla.**—An uncommon migrant.

146. **Helminthophila peregrina.**—Rare migrant.

147. **Compsothlypis americana.**—Common migrant.

148. **Dendroica æstiva.**—Formerly a common summer resident, but for the last two or three years quite a rare migrant.

149. **Dendroica coronata.**—Common migrant. A few may winter as I killed one January 16, 1886.

150. **Dendroica pensylvanica.**—A not very common migrant.

151. **Dendroica blackburniæ.**—Very rare. Two seen July 25, 1888.

152. **Dendroica dominica albilora.**— Summer resident. Not common.

153. **Dendroica virens.**—Common migrant.

154. **Seiurus aurocapillus.**—Common summer resident.

155. **Seiurus noveboracensis.**—A rather common migrant.

156. **Geothlypis formosa.**—Rare summer resident. One seen as late as November 28 in 1886.

157. **Geothlypis trichas.**—Common summer resident.

158. **Icteria virens.**—Very rare. The only one I have seen was killed by Mr. Charles Holcombe, Jr., September 23, 1887.

159. **Sylvania canadensis.**—Common migrant.

160. **Setophaga ruticilla.**—Common. Probably only a migrant, though I have seen it in August.

161. **Mimus polyglottos.**—Common resident.

162. **Galeoscoptes carolinensis.**—Common summer resident. In 1887 it arrived February 22.

163. **Harporhynchus rufus.**—Common summer resident.

164. **Thryothorus ludovicianus.**—Common resident.

165. **Thryothorus bewickii.**—Very rare. Only seen in winter.

166. **Troglodytes aëdon.**—Common resident.

167. **Troglodytes hiemalis.**—Very rare. My only note on this species is of one killed by Mr. T. L. M'Cutchen in December, 1885.

168. **Cistothorus palustris.**—Not common. I have only seen it as a migrant.

169. **Certhia familiaris americana.**—Common winter visitant.

170. **Sitta carolinensis.**—Common resident.

171. **Sitta canadensis.**—Common winter visitant.

172. **Parus bicolor.**—Common resident.

173. **Parus atricapillus.**—Rare winter visitant.

174. **Parus carolinensis.**—Common resident.

175. **Regulus satrapa.**—Migrant. Not so common as the next. One seen January 27, 1888.

176. **Regulus calendula.**—Common migrant.

177. **Polioptila cærulea.**—Common summer resident.

178. **Turdus mustelinus.**—Common summer resident.

179. **Turdus aonalaschkæ pallasii.**—Common migrant.

180. **Merula migratoria.**—Common winter visitant.

181. **Sialia sialis.**—Common resident.

INTRODUCED SPECIES.

182. **Passer domesticus.**—Abundant resident.

183. **Passer montanus.**—A few seen at different times. I think this species comes down from St. Louis on the steamboats, as the English Sparrow often does.

A SECOND SPECIMEN OF CORY'S BITTERN (*BOTAURUS NEOXENUS*).

BY W. E. D. SCOTT.

MR. J. F. MENGE of Fort Meyers, Florida, spent a portion of the month of July, 1889, in exploring parts of Lake Okeechobee and the region immediately south of that body of water. During this trip on three occasions he met with this little known species (*Botaurus neoxenus*), and though he had but poor facilities for preserving and taking care of birds, he secured one of the individuals in question, which has come into my possession through the kindness of my friend Mr. J. W. Atkins of Key West. This bird, No. 3237 of my catalogue, is apparently an adult male, and was taken on July 9, 1889, at a point some thirty miles south of Lake Okeechobee and ten miles east of a point known as Sam Jones Old Town.

The region, from the account given by Mr. Menge, is very like that frequented by *Botaurus exilis*, being a large 'saw grass' on the edge of two large ponds, where the surface of the water is covered to a great extent with the large leaves of a kind of water-lily. The bird was first observed walking about on these leaves, and being disturbed, retreated to the 'saw grass' but presently, re-appearing, was secured.

As this is the second known representative of this species in any collection a brief description of the individual seems warranted. The entire upper surface, sides of head and neck and face, lower tail-coverts, outer surface of wing, except the coverts, are deep greenish black, similar in shade to the back of an adult male *Botaurus exilis*. This color is also the general tone of the belly, sides, and flanks, though a few whitish and some chestnut feathers are mixed with the prevailing color. The lower surface of the neck and the throat are bright chestnut. The greater, median, and lesser wing-coverts are dark like the back at their bases, but shade into deep chestnut terminally. The inner surface of the wing-feathers is drab. The edge of the wings at the shoulder and reaching to the base of the first primary, is light chestnut. The general appearance of the bird is dark greenish black, and Mr. Menge in speaking of the birds well calls them "Black Bitterns."

In size the bird is very near *Botaurus exilis*, perhaps a trifle smaller than the average of that species.

The following measurements are all taken from the dry skin before me. Length, 11.50 inches; wing, 4.60; culmen, 2.00; tarsus, 1.60.

From the meagre biographical notes that Mr. Menge was able to make, it would appear that the habits of *Botaurus neoxenus* are very like those of *B. exilis*.

A SUMMARY OF OBSERVATIONS ON THE BIRDS OF THE GULF COAST OF FLORIDA.

BY W. E. D. SCOTT.

(*Continued from p. 252.*)

Milvulus forficatus. SCISSOR-TAILED FLYCATCHER.—For notes on this species see Auk, Vol. VI, No. 2, April, 1889, p. 161. Mr. Atkins writes me that he has examined a single bird of this kind, taken at Miami by A. Lechevallier, but with no sex or date on the label.

Tyrannus tyrannus. KINGBIRD. — A common migrant and a few remain to breed. Not recorded during the winter months. The species arrives about Tarpon early in April (1-10) and the latest fall notes recorded are in the first week of October.

Mr. Atkins says, "Arrives at Punta Rassa going north the latter part of March. Occasionally found there until April 26. Young male birds taken August 20. Key West, first arrival noted March 20, last seen April 12. August 30 reappeared at Key West in large flocks, and was more or less common until October 15, after which the birds were not seen.

Tyrannus dominicensis. GRAY KINGBIRD. — An abundant migrant, and breeds in great numbers on the keys off the coast, affecting particularly such as are covered with mangrove. The earliest record I have of its arrival about Tarpon Springs is April 23, 1887, and the birds are common till late in September. The eggs are laid in this vicinity from about the middle to the last of May, and but one brood appears to be reared.

Mr. Atkins's notes are as follows: "Arrives at Punta Rassa middle of April; nests commonly on the islands and along the shore in mangrove bushes. Seems to prefer an isolated tree or bush near the water. Last noted at Punta Rassa September 13. Arrives at Key West about April 11. A few breed here. The main body returns with *Tyrannus tyrannus* and passes southward with that species."

Myiarchus crinitus. CRESTED FLYCATCHER.—Common migrant and rather rare summer resident. In the region about Tarpon the arrival in spring is about April 10, and during that month the birds are abundant. From the same locality I have also notes of the occurrence of the species in September. The birds that remain during the summer average deeper in coloring than northern examples at the same season of the year. Mr. Atkins says, "They are common at Punta Rassa in winter. One individual seen on August 25. Key West, January 24, 1889, one taken, the only record I have made here."

Sayornis phœbe. PHŒBE.—A migrant and winter resident. Abundant. "Common at Punta Rassa and Key West during the migrations and occasional in winter at both places."—J. W. Atkins.

Contopus virens. WOOD PEWEE.—A rather common migrant and rare summer resident, breeding sparingly about Tarpon Springs. Mr. Atkins says: "I have but one record at Punta Rassa, November 23, 1885."

Empidonax acadicus. ACADIAN FLYCATCHER.—A rare migrant. This is the only species of the genus *Empidonax* that I have met with in the vicinity of Tarpon Springs.

"One record at Punta Rassa September 13, 1886. No records at Key West."—J. W. Atkins.

Cyanocitta cristata florincola. FLORIDA BLUE JAY.—Abundant resident. This is particularly true of the neighborhood of Tarpon Springs. Breeds in this vicinity in April and May. Mr. Atkins did not find the species at Punta Rassa, but obtained it in the vicinity. He has been unable to detect the presence of the Florida Blue Jay at Key West or in the neighboring islands.

Aphelocoma floridana. FLORIDA JAY.—Common resident in suitable localities in all the country of the Gulf Coast north of Punta Rassa. Mr. Atkins has not found this species either at Punta Rassa or at Key West, or in the vicinity of either of these places.

Corvus americanus floridanus. FLORIDA CROW.—Common resident. Breeds about Tarpon Springs in April and May. At Punta Rassa Mr. Atkins records the species as very common and breeding in numbers. He has observed it more rarely at Key West, where it is unusual to meet with more than a pair at one time, and at which point he has not recorded the species as breeding.

Corvus ossifragus. FISH CROW.—Common resident at many points on the Gulf Coast and probably breeds, for though I have not found the nest, I have records of its occurrence in numbers as far south as Punta Rassa for every month in the year. In the fall these birds congregate in enormous flocks, and in October the berry of the palmetto is their favorite food.

Dolichonyx oryzivorus. BOBOLINK.—Common spring and fall migrant about Tarpon Springs, but absent in the summer and winter. In the spring they appear late in April and remain perhaps two weeks. At this time the male birds have assumed full plumage. Also see Auk for Vol. IV, p. 139. In the fall they arrive in large flocks about Tarpon Springs as early

as August 26, and are abundant through the month of September. Mr. Atkins found them common in fall at Punta Rassa, but very rare in spring at that point. But at Key West he says "they are abundant both as fall and spring migrants."

Molothrus ater. COWBIRD.—A not very common bird in the winter months about Tarpon Springs. While here the birds are most frequently associated with *Agelaius phœniceus* and *Quiscalus quiscula aglæus*. Found throughout the year commonly at Punta Rassa by Mr. Atkins, but not at Key West during the summer, though common during the remainder of the year.

Agelaius phœniceus bryanti. BAHAMAN RED-WINGED BLACKBIRD.—The Red-winged Blackbirds collected by me in the vicinity of Tarpon Springs and further south appeared to be referable to this subspecies, and not having access to material for comparison I sent the series to Mr. J. A. Allen at New York who kindly examined them for me and has given his view in a letter, as follows: "The Red-wings I should refer on general grounds to *A. phœniceus bryanti*, as I think this name may be used for resident South Florida birds, from at least Indian River southward, although the bill is less attenuated and less laterally compressed at the base than in our single Nassau specimen."

"At Punta Rassa the Redwings are common residents and breed, being more abundant in summer than in winter. At Key West I have not noted them in such large numbers though they are to be found the year round."—J. W. Atkins.

Sturnella magna mexicana. MEXICAN MEADOWLARK.—Common resident. Breeds in April and May about Tarpon. I cannot but agree with Mr. Chapman (see Auk, Vol. V, p. 273) as to the affinity of the form of the Meadowlark that occurs in this part of Florida. The peculiar suffused plumage assumed by the Meadowlarks in the fall in New Jersey, and which is worn throughout the winter months, is much more transitory here, and birds before me taken in December do not show it.

Since I wrote the foregoing Mr. Allen and Mr. Chapman have kindly examined a large series of Meadowlarks sent them by me and confirm the identity of the Florida representatives with *S. magna mexicana*. Referring to the matter Mr. Allen says: "He [Mr. Chapman] has had all of the Smithsonian material in hand, which with ours gives a considerable series of true *mexicana* and a very large series of Florida specimens. They furnish no characteristics by which they can be separated." I am indebted to both Mr. Allen and Mr. Chapman for their kindness in making these comparisons for me.

Mr. Atkins found this species at Punta Rassa in November, 1885, but regards it as uncommon at that point and has not met with the birds at Key West.

Icterus spurius. ORCHARD ORIOLE. A rather common migrant in the spring about Tarpon Springs. (See Auk, Vol. V, p. 186.) Mr. Atkins did not obtain this Oriole at Punta Rassa but on April 29, 1887, he took a young male, *i. e.*, in the yellow plumage with black throat, at Key West. This is the only time he has observed the species at that point.

Quiscalus quiscula aglæus. FLORIDA GRACKLE. — Abundant resident and breeds in numbers in May in the region about Tarpon. I do not think that more than a single brood is reared each season.

"Not common at Punta Rassa but very abundant on the upper waters of the Caloosahatchie. Very common at Key West, where it breeds, arriving in large numbers about the middle of April."—J. W. Atkins.

Quiscalus major. BOAT-TAILED GRACKLE. — Common resident, and breeds in numbers, the season varying somewhat with the locality. At Tarpon the breeding season lasts from April to July and two broods of from three to five chicks are reared.

"Common at Punta Rassa, but only a few stragglers observed at Key West, these seen in September and October."—J. W. Atkins.

Spinus tristis. AMERICAN GOLDFINCH. — Not very common, but of regular occurrence as a winter visitor, during the several seasons I have spent at Tarpon Springs. The earliest record of appearance is December 30, 1877, and the birds then remained in small flocks. Occasionally seen till February 20. The only bird observed at a later date than that was a male taken on April 12, 1888, that had almost assumed full plumage. Mr. Atkins observed the birds in small numbers at Punta Rassa early in January, 1886. He says "the weather had been very cold there for some days previous to their arrival, ice forming in vessels containing water." Mr. Atkins has not observed the species at Key West.

Poocætes gramineus. VESPER SPARROW. — Rather common. Late fall and early spring migrant about Tarpon Springs, and a few winter in the vicinity. Mr. Atkins did not take the species at Punta Rassa and has only met with it on one occasion at Key West, when a single one was taken on January 29, 1888.

Ammodramus sandwichensis savanna. SAVANNA SPARROW. — A common migrant and winter resident in the neighborhood of Tarpon Springs. In the fall they arrive about October 14 and remain till April, though not common after March 1. Many winter both at Punta Rassa and at Key West, Mr. Atkins writes me.

Mr. Allen has kindly examined a large series taken at Tarpon Springs and other points, and writes me in regard to them as follows: "Of your series of fifty-two *Ammodramus sandwichensis savanna*, thirty-nine are October specimens and do not differ from northern birds taken at the same season. The darkest of them is exactly matched by birds from Englewood, New Jersey. The winter specimens (one taken in January, ten in February, one in March, and one in April) agree with northern spring specimens, except two which are blacker above and more heavily streaked below than any in our (rather small) series of northern birds. These are Nos. 4966, ♂, Tarpon Springs, February 28, 1888, and 5452, Key West, January 28, 1887. The next darkest specimens in your series are readily matched with northern birds and with the two exceptions named there is nothing peculiar in your series. The two very dark specimens I should consider as probably only cases of extreme individual variation."

Ammodramus savannarum passerinus. GRASSHOPPER SPARROW. —

A rather common migrant and winter resident about Tarpon Springs, where the birds arrive early in October, and remain till March 20 in numbers, and till April 6-10 rarely. The same remarks apply to both Punta Rassa and Key West, according to Mr. Atkins.

Ammodramus henslowii. HENSLOW'S SPARROW. — Rather rare migrant and winter resident at points near Tarpon Springs, and I have taken the species as late as April 11 at this point. Mr. Atkins did not detect the species at Punta Rassa, nor has he found it at Key West.

Ammodramus caudacutus. SHARP-TAILED FINCH.—A rather common migrant and winter resident about Tarpon Springs, and in suitable localities which I have visited both north and south of the Anclote River.

Mr. Allen in writing of some examples of this species which I sent to him from this point last year (see Auk, Vol. V. p. 284) spoke of slight differences which did not seem to warrant subspecific separation. In a recent letter, of additions to that material he writes me: "The eleven *Ammodramus caudacutus* agree exactly with those you sent last year. With this larger series, and also a larger series of northern birds for comparison, I still believe the differences too slight, and inconstant to warrant the separation of the Florida birds as a local or southern race of *A. caudacutus*, as quite a proportion of the southern birds are easily matched with Long Island and New Jersey specimens."

I am not aware that this species breeds on the Gulf Coast of Florida nor that it extends its migration much to the south of the mouth of the Anclote River. Mr. Atkins did not find it during the several seasons he collected at Punta Rassa, nor has that gentleman detected it in the vicinity of Key West.

Ammodramus peninsulæ. SCOTT'S SEASIDE SPARROW.—During the past winter this bird was found to be very common in the salt water marshes both to the north and south of the Anclote River. I have collected in the months of December, January, and February of the winter of 1888-89 a series of sixty-seven of these birds. In the light of this new material I am inclined to regard this form as a *species* rather than as a *subspecies* of *Ammodramus maritimus*, and therefore propose this new rank for the bird in question. In this entire series there are no individuals that could not at a glance be selected from the true *maritimus*. The bird seems quite as distinct from that species as from *Ammodramus nigrescens*, and of equal value as a species to either of these two near allies.

The species does not, as far as I am aware, breed in the vicinity of the point where I found it wintering so abundantly, and I am inclined to believe that its migrations are not extended far to the south of the mouth of the Anclote River. During the winter of 1879-80, which I spent partly at the mouth of the Withlacoochee River and partly at Clear Water Harbor, I found the birds quite common at the former place, but though I looked for them carefully I did not detect them at any point in the salt marshes of Clear Water Harbor. Mr. Atkins has been unable to find the species at Key West, and did not meet with it at Punta Rassa.

Chondestes grammacus. LARK SPARROW.—The two records of this

bird for the Gulf Coast already published in this journal are of an adult female taken by Mr. J. W. Atkins at Punta Rassa, September 26, 1886, and an individual seen by the writer on September 19, 1886, at Tarpon Springs. In addition Mr. Atkins secured one at Key West on October 6, 1887, and on the 10th of November, 1887, I saw one at Tarpon Springs, and watched it for some ten minutes or more. In the light of these several observations it seems probable that the bird is a regular though rare migrant on the Gulf coast of Florida.

Spizella socialis. CHIPPING SPARROW.—A not very common winter visitor in the vicinity of Tarpon Springs. Mr. Atkins has no notes on this or the next species from either of the points to the south where he has collected.

Spizella pusilla. FIELD SPARROW.—Not so common as the last, but of regular occurrence in the vicinity of Tarpon Springs in December and January.

Peucæa æstivalis. PINE-WOODS SPARROW.—A not very common resident in the immediate vicinity of Tarpon Springs, but common at many places on the Pinellas peninsula just to the south. They breed wherever they occur in this region. Mr. Atkins has not met with the species at either point where his investigations have been carried on.

Peucæa æstivalis bachmanii. BACHMAN'S SPARROW.—I had formerly considered that this subspecies probably bred in the vicinity of Tarpon Springs, but have come to regard it as a rare migrant and winter visitor, perhaps more common in late fall than at any other season. The earliest record I have is September 27, and the latest spring record is in February. Mr. Atkins has not met with it at Punta Rassa or Key West.

I sent to Mr. J. A. Allen the series of this and of *P. æstivalis* for examination and comparison, and after kindly looking them over he writes: "The twelve *Peucæas* taken in April and May are all typical *P. æstivalis.* Only seven of the series of fifty are *P. æstivalis bachmanii;* five of these are October specimens; one is dated September 27, and the other was taken in February. They are all probably migrants from the north. Of the thirty-six other September and October specimens I should consider one fourth of them as intermediates of various grades between *P. æstivalis* and *P. æstivalis bachmanii.*"

Melospiza fasciata. SONG SPARROW.—A not very common but regular winter visitor about Tarpon Springs. Mr. Atkins did not notice it at Punta Rassa, nor has he observed it at Key West.

Melospiza georgiana. SWAMP SPARROW.—An abundant winter resident and common migrant in the vicinity of Tarpon Springs. Mr. Atkins took this species at Punta Rassa in winter on several occasions, but considered it uncommon. He has not observed it at Key West.

Passerella iliaca. FOX SPARROW.—Mr. Atkins took a single representative of this species at Punta Rassa in November, 1886. This is the only occurrence that I have record of.

Pipilo erythrophthalmus alleni. WHITE-EYED TOWHEE.—Common resident and breeds in numbers about Tarpon Springs in early April and

later. Mr. Atkins found it common at Punta Rassa in winter, and regarded it as rare in the breeding season at that point. The only record from Key West is of a single bird blown ashore in a heavy northwest gale in February, 1889. The bird was in an exhausted condition so that it was caught and caged.

Cardinalis cardinalis. CARDINAL.—Common resident, and breeds at all points visited on the Gulf Coast. At Key West, Mr. Atkins says: "It is rather rare, but few birds having been noted. But it is common on the keys north of here. The Cardinal is in great demand as a pet by the Cubans, and on that account is a regular feature of the auction rooms, being supplied from the northern keys and the mainland."

Habia ludoviciana. ROSE-BREASTED GROSBEAK.—I have not met with this species on the Gulf Coast where it seems to be a rare migrant. Mr. Atkins took three individuals at Key West on October 11, 1888. He did not meet with the species at Punta Rassa.

Guiraca cærulea. BLUE GROSBEAK.—Apparently a rare migrant on the Gulf Coast. On April 25, 1887, I took a male near Tarpon Springs and saw another. These are the only records that I have made personally and Mr. Atkins has not met with the species.

Passerina cyanea. INDIGO BUNTING.—I have no records for the Gulf Coast. Mr. Atkins says: "One record at Key West, an adult female taken April 12, 1887. Richly plumaged males are sometimes trapped by the boys in the spring. I have seen several that were so taken. I did not meet with the bird at Punta Rassa."

Passerina ciris. PAINTED BUNTING. — A rather common migrant and a few breed in the vicinity of Tarpon Springs. Mr. Atkins says "rather common migrant both at Punta Rassa and at Key West. Probably a few birds are resident at Punta Rassa where it breeds. Not observed in the breeding season at Key West."

Spiza americana. DICKCISSEL. — Mr. Atkins secured a single representative of this species at Key West, April 30, 1889. This is the only record that he has made and I have not met with the species.

Piranga erythromelas. SCARLET TANAGER.—This is a regular migrant but more common in spring than in fall in the vicinity of Tarpon Springs. At this point in spring the birds appear late in April, from the 24th to the 29th of the month, and are rather rare, remaining till May 2, later than which I have no records. Mr. Atkins did not note Scarlet Tanagers at Punta Rassa, but has taken the species at Key West on April 27 and 29, 1889, when he secured one bird on each day.

Piranga rubra. SUMMER TANAGER. — A migrant and summer resident in the vicinity of Tarpon Springs, where the species breeds in numbers. Here the birds arrive as early as the 4th of April, and females taken on the 18th and 20th of that month were laying or about to lay. They remain till late in September. On the 20th of that month in 1887 I secured an adult male in the *red plumage*, which had fully completed the fall moult. Mr. Atkins says the species occuis sparingly at Key West and at Punta Rassa as a migrant. His records at Punta Rassa are April 12, 1886, and

again on several occasions in October of the same year. At Key West he observed them on April 18 and 29, 1887, and on October 11 and 13, 1888, they were more abundant than at any other time.

Progne subis cryptoleuca. CUBAN MARTIN.—It seems probable that all Martins found *breeding* on the Gulf Coast of Florida, at least as far north as Tarpon Springs, are referable to this form, and though the material that I have before me is limited, yet one of the male birds is fairly intermediate between *P. subis* proper and what I think will ultimately have to be considered as the subspecies *P. subis cryptoleuca*, though the latter is now given specific rank. (See Check-List of North American Birds. Abridged Edition, Revised, 1889, p. 55, No. 611.1.) I have submitted material collected in the vicinity of Tarpon Springs to Mr. J. A. Allen, who concurs in the above views and from whose letters on the subject I quote as follows: "The Martins I should refer to *Progne subis cryptoleuca*, of which the single female and two of the males are fairly typical, judging from my limited material. The other male I should consider *an intermediate* between *P. subis* and *P. subis cryptoleuca*, which latter I believe at least only a geographical race of *P. subis*." As the birds are abundant in the breeding season in the town of Tarpon Springs and as I am expecting additional representatives from at least two points to the south on the Gulf Coast, as well as from Key West, I hope at an early date with more abundant material to deal conclusively with the subject. At Tarpon Springs it is difficult to obtain the birds as they are almost confined to the town limits, where shooting of all birds at any season is prohibited. At this point the first Martins to arrive are seen as early as the first week in March, but I suspect these are representatives of true *P. subis* on their way north, as the birds that frequent the Martin boxes in the town do not seem at all common until the first week in April, and do not nest until the middle or last of that month. Mr. Atkins noticed the first Martins at Punta Rassa on March 20, 1886, and saw them frequently during the summer "at a point on the beach near the pine trees." "Evidently breeds." He has also noted Martins as rather common migrants at Key West, but has not found them breeding at that point.

Chelidon erythrogaster. BARN SWALLOW. — A common spring and very abundant fall migrant, and a few are met with in warm days throughout the winter, in the vicinity of Tarpon Springs. Some few breed at or near the same point. Mr. Atkins's observations at Punta Rassa and Key West coincide with what I have written above, except that he has not observed the birds breeding, though he has seen them at Key West on June 11, and again on August 6-10 in numbers.

Tachycineta bicolor. TREE SWALLOW.—A more abundant migrant and winter resident in the region about Tarpon than the last. Mr. Atkins finds them to be much rarer migrants than the Barn Swallow at both Punta Rassa and Key West.

Clivicola riparia. BANK SWALLOW.—Observed in fall and spring as an uncommon migrant in the vicinity of Tarpon Springs. Mr. Atkins has not met with the species at either of the points on the Gulf coast where he has collected.

Stelgidopteryx serripennis. ROUGH-WINGED SWALLOW.—Not very common in April, 1887, in the vicinity of Tarpon Springs, which is the only point where I have observed the species.

Ampelis cedrorum. CEDAR WAXWING.—Observed in flocks feeding on mulberries in early April, 1887, at Tarpon Springs. At Hog Island, five miles south of Anclote Keys and four miles from the main land, I took four from a large flock that were feeding among the mangroves on May 2, 1888. Mr. Atkins has no records of the species at Punta Rassa or at Key West.

(*To be continued.*)

RECENT LITERATURE.

Barrows's Report on the English Sparrow in North America.*—This 'Report,' of about 400 pages, exhaustively treats the subject under consideration, presenting the evidence, pro and con, at great length, and with evident fairness. The work is based primarily on the replies of over three thousand observers to circulars of inquiry sent out by the Division of Economic Ornithology of the Department of Agriculture, and secondarily on previously published evidence, the whole carefully elaborated and thoroughly systematized. Part I, entitled 'Summaries of Evidence — Recommendations—Special Reports,' occupies pp. 17-194, and treats (1) of the importation, spread, and increase of the species, and the checks upon its increase; (2) of the injuries it inflicts in various ways upon fruits, grains, and garden vegetables; (3) its relation to other birds; (4) its relation to insects; and contains (5) recommendations for legislation, and suggestions to the people at large; (6) a paper by Dr. A. K. Fisher, Assistant Ornithologist of the Division, on the destruction of the Sparrow by poisons; (7) a paper on trapping Sparrows (illustrated), by Mr. W. T. Hill; and (8) a history of the English Sparrow and European Tree Sparrow (*Passer montanus*) at Saint Louis, Mo., by Mr. Otto Widmann. This Part also includes a paper of 20 pages by Prof. C. V. Riley, Entomologist of the Department of Agriculture, on the 'Relation of the Sparrow to Insects,' based on the examination of the contents of over 500 Sparrow stomachs, followed by tabular statements of food, as shown by dissection of Sparrows' stomachs made at the Department of Agriculture.

* U. S. Department of Agriculture. | Division of Economic Ornithology and Mammalogy. | Bulletin I. | — | The | English Sparrow | (*Passer domesticus*) | in North America, | especially in its Relation to Agriculture. | — | Prepared under the direction of | Dr. C. Hart Merriam, Ornithologist, | by | Walter B. Barrows, | Assistant Ornithologist. | — | Washington: | Government Printing Office. | 1889.—8vo, pp. 405, with map.

Part II (pp. 197-357) gives 160 pages of previously unpublished evidence bearing on its distribution, rate of increase, and its injurious relations to agriculture, through its destruction of fruit buds, foliage, fruits, garden seeds, garden vegetables, and grain, and through its antagonism to native birds and its relation to insects. This is followed by 57 pages of previously published testimony, about one half of which relates to its American history, while about 20 pages are devoted to its record and status in Europe (relating mainly to England), and ten to its history and status in Australia.

The evidence presented is overwhelming against the 'eligibility' of the Sparrow in America. Its injuries to various kinds of fruits and vegetables are classified under appropriate headings, and the evidence presented is given in the language of the reports of correspondents, alphabetically arranged by States and towns. Of the reports received (owing to their number and volume only a part are given), about one to five per cent, in respect to injuries to small fruits, vegetables, and grains, are favorable to the Sparrow; about three to eight per cent are indecisive; while upward of ninety per cent are classified as wholly unfavorable. The evidence bearing upon its relation to other birds is hardly more favorable, specific statements of its persecution of our native birds being abundant and related with convincing detail. Respecting the food of the Sparrow, as determined by actual dissections of stomachs, the testimony is not encouraging to those who believe in his efficiency as a destroyer of noxious insects. Thus of 522 stomachs examined only about one in six contained any insect remains, and of these remains two thirds were of beneficial insects or of insects of no economic importance, reducing the proportion of noxious insect remains, compared with the total contents of the stomach, to an almost infinitesimal amount.

Various suggestions are made for the eradication of the pest, but none of them seem to offer much hope of success, in view of its great abundance, wide distribution, and rapidity of increase, since only general and concerted action at all points where it has appeared would give reasonable hope of its extirpation; and this, in the nature of things, is hardly to be expected. Much can be done, however, to check the rate of increase and more or less energetic and general measures will doubtless soon be resorted to on the part of those whose interests are most directly attacked.

The information given in this admirable report can not fail to arouse general interest in the subject, and lead to important economic results and more intelligent legislative action, the House Sparrow being still a 'protected' bird in two thirds of the States and Territories which have laws for the protection of harmless or beneficial birds. In only seven is the Sparrow left an outlaw, and in only three is there any aggressive legislation against it, Michigan and Ohio offering a bounty for its destruction. Mr. Barrows, however, argues at length, and very justly and conclusively against the expediency of offering bounties, as such a policy would not only prove inefficient but enormously expensive. He urges, however, the

formation of Sparrow Clubs, whose object shall be the destruction of these birds by concerted action, the offering of prizes, etc. Shooting in winter time of flocks decoyed by food advantageously spread for the purpose, and the destruction of nests, and disturbing their roosting places, are among the suggestions for their decrease. Directions for the preparation and use of poisoned food are also given, which, if used with proper care, might yield very satisfactory results.

With all the light now thrown upon the subject, it would seem that the Sparrow can have few friends among intelligent people. Those who still believe in him as a desirable addition to our fauna must be of the class Mr. Barrows so happily characterizes in his 'Introduction' as "persons whose minds are so constituted that nothing is evidence to them except what is derived from their own observation, and as this unfortunate mental infirmity is commonly correlated with the total inability to observe anything which interferes with their theories, it makes little difference whether their opportunities have been good or bad, their position is unassailable. . . . . No amount of evidence will change their opinion, and fortunately for the good of mankind it makes little difference what that opinion may be."

'Bulletin I' of the Division of Economic Ornithology is a most thoroughly creditable and utilitarian piece of work, vindicating effectively the need and wisdom of establishing such a department of research as a part of the legitimate work of the U. S. Department of Agriculture. 'Bulletin I' also admirably completes an investigation originally started by a Committee of the American Ornithologists' Union.—J. A. A.

Davie's Nests and Eggs of North American Birds.—Under a new title,* the words 'Check-List and Key' being very properly omitted, the third edition of this popular book appears as practically a new work, containing six additional engravings and more than twice the matter of previous editions. The nomenclature and classification of the A. O. U. Check-List is adopted and the habitats allotted to each species and subspecies are for the most part taken with little or no change from the same authority. The text, which in previous editions was limited to mere descriptions of nests and eggs with brief notes on distribution or habits, is now greatly extended, a page or more frequently being devoted to a single species, and in many cases the remarks form nearly complete biographies. The author appears to be well informed on his subject and he has freely availed himself of existing oölogical literature, the work abounding in valuable references, and he also includes much new material derived by him through correspondence with other observers. He presents (p. 120) strong evidence of the breeding of *Totanus flavipes* in Ohio, "a well-formed egg"

*Nests and Eggs | of | North American Birds | by | Oliver Davie | Third Edition, Revised and Augmented | Introduction by J. Parker Norris. | Illustrations | by | Theodore Jasper, A.M., M.D., and W. Otto Emerson | — | Columbus | Hann and Adair | 1889.—8vo pp. [1-8], 1-455, i-xii. pll. i-xiii.

being taken from a female killed June 14, 1888, and in the appendix (p. 446) records the capture in the same State of two specimens of *Nyctala acadica* which had just left the nest, also the capture of a single *Zonotrichia querula* April 28, 1889, near Columbus, Ohio. The nesting and eggs of *Spizella pusilla arenacea* are described (p. 309) as "indistinguishable from *S. pusilla*," but on just what authority is not stated. The practice of omitting species and subspecies "of which no authentic account of either their nests or eggs has been obtained" (preface) without further explanation than is conveyed by a break in the enumeration is apt to lead to confusion by conflicting with the same method employed in eliminating species and subspecies from the A. O. U. Check-List which have been excluded for widely different reasons. In this manner, however, we learn that the nest or eggs of ninety-one species and sixty-eight subspecies are as yet undescribed. While without by any means attempting to supply references to the existing literature on the nidification of these species the reviewer adds such as are known to him for the benefit of a fourth edition of this work which he understands is soon to be issued. *Brachyrhamphus kittlitzi*, see Turner, Cont. to Nat. Hist. of Alaska, 1886, p. 121. *Larus minutus*, eggs described by Liljeborg, Naumania, 1852, p. 110. *Colinus virginianus cubanensis*, described by Gundlach, Journal für Ornithologie, 1874, p. 303. *Falco sparveroides*, described by the same author, *op. cit.*, 1871, p. 373. *Scotiapex cinerea lapponica* described by Dresser, Birds of Europe, V, p. 281. *Surnia ulula*, described by the same author, *op. cit.*, p. 301. *Chordeiles virginianus chapmani*, described by Scott, Auk, V, 1888, p. 186. *Myiozetetes texensis*, described by Salvin and Godman, Biol. Cent. Am., II, p. 41. *Myiarchus lawrenceii*, described by Sclater, P. Z. S., 1859, p. 384. *Aphelocoma californica hypoleuca*, described by Bryant, Proc. Cal. Acad. Sc., 2nd Ser., II, p. 20.* *Sturnella magna mexicana*, described by Salvin and Godman, Biol. Cent. Am., I, p. 458. *Carpodacus mexicanus ruberrimus*, described by Bryant, *op. cit.* p. 23.* *Acanthis hornemannii*, described by Dresser, Birds of Europe, IV, p. 55. *Melospiza fasciata rivularis*, described by Bryant, *op. cit.*, p. 22.* *Euetheia canora*, described by Thienemann, Journal für Ornithologie, 1857, p. 150. *Progne cryptoleuca*, described by Gundlach, *ibid.*, 1872, p. 431. *Geothlypis beldingi*, described by Bryant, *op. cit.*, p. 20.* *Anthus cervinus*, described by Dresser, Birds of Europe, III, p. 299. *Troglodytes alascensis*, described by Turner, Cont. to Nat. Hist. of Alaska, 1886, p. 181. *Psaltriparus lloydi*, described by Sennett, Auk, V, 1886, p. 43. *Phyllopseustes borealis*, described by Seebohm, Ibis, 1879, p. 9. It is evident that these omissions relate largely to species of rare or accidental occurrence and they therefore detract very little from the value of the work, which we are sure will be welcomed alike by ornithologists and oölogists as a most convenient hand-book on the nesting habits and distribution during the breeding season of North American birds. — F. M. C.

*This description appeared at too late a date to be included in Mr. Davie's work.

Birds Through an Opera Glass.*—This little volume of some 223 pages is made up of sixty chapters, each of which relates to a single bird. Most of the species are the more conspicuous or interesting of our northern birds, the author's observations having been made either at Northampton, Massachusetts, or Locust Grove, New York. Many of the chapters were published in the 'Audubon Magazine' for 1886. These have been revised and largely re-written; the others now appear for the first time. The work is illustrated by some good woodcuts taken from Baird, Brewer, and Ridgway's 'History of North American Birds.' There is a preliminary chapter entitled, 'Hints to Observers', which includes a few simple and excellent rules intended for beginners.

Miss Merriam belongs to that class of observers and writers of which, so far as North America is concerned, Thoreau may be said to have been the originator, and Burroughs, Torrey, Maurice Thompson, and others, the disciples and followers. As with all of these, her field work seems to have been instigated and directed by an innate love of the woods and fields, and an interest, at once strong and affectionate, in their feathered inhabitants. Her sole weapon has been not a gun, but an opera glass; her object not the acquisition of specimens, but the study of the manners and habits of the living birds. Evidently she is particularly interested in their songs and call notes, for these receive marked attention in all her biographies. Her descriptions of them are perhaps as successful as those of most writers in this field, but it may well be doubted if it is really worth while to attempt anything definite of this kind. Either different ears hear differently, or, as is more probable, most bird notes are impossible of adequate rendering into words.

As an observer, Miss Merriam is unmistakably keen, discriminating, and accurate; as a writer, always simple and true, at times highly vigorous and original. Her attractive little book may be cordially recommended to all who wish to study our familiar birds, either with or without an opera glass.—W. B.

Stone's Catalogue of the Muscicapidæ in the Collection of the Philadelphia Academy of Natural Sciences.†—Mr. Witmer Stone, a promising young ornithologist of Philadelphia, already well known to the readers of 'The Auk,' presents us in the present paper a catalogue of the Muscicapidæ, or Old World Flycatchers, contained in the Museum of the Academy of Natural Sciences of Philadelphia. This collection, as is well known, is rich in types, containing as it does Gould's types of his 'Birds of Australia,' and most of the types of the species described by Cassin, and much historic material from the collections of Gen. Massena, the Duke of Rivoli, Prince d'Esling, and Du Chaillu. Since the death of the late

---

* Birds | Through an Opera Glass | by Florence A. Merriam | Boston and New York | Houghton, Mifflin & Company | The Riverside Press, Cambridge | 1889.

† Catalogue of the Muscicapidæ in the Collection of the Philadelphia Academy of Natural Sciences. By Witmer Stone. Proc. Acad. Nat. Sci. Phila., 1889, pp. 146-154.

John Cassin, in 1869, the Academy's collection of birds, though so important and valuable, has had no proper curator, and has consequently suffered from neglect and disuse. We are, however, pleased to learn that it has escaped serious harm from insect pests, and is now in the hands of an energetic and efficient worker who, as an assistant curator of the Museum, is especially in charge of the birds, and is not only bringing them into an orderly condition, but making known the contents of the collection.

The 'Catalogue' under notice enumerates 156 species, or about three eighths of all the known species of the family Muscicapidæ, represented by 502 specimens, including the types of 34 species. The specimens are not formally enumerated, generally merely the localities being given from which the species are represented, with here and there a few critical remarks respecting the status of certain forms, and on interesting phase of plumage. In the main the nomenclature and arrangement of Mr. Sharpe's 'Catalogue' of the family (Bds. Brit. Mus., Vol. IV) is followed. In a former paper* Mr. Stone has given his reasons for believing the *Pratincola salax* Verr. = *P. sybilla* (Linn.). We are pleased to learn that similar 'Catalogues' of other families may be soon expected.—J. A. A.

Bergtold's List of the Birds of Buffalo and Vicinity.† — This briefly annotated list numbers 237 species and subspecies. Says the author: "The present purpose is to record the name of every bird known to occur or to have occurred in this locality. . . . The names of no species have been admitted when the least shade of doubt existed as to the authenticity of their occurrence. In order to be authentic a bird must either have been taken and identified by competent persons, or if seen alive and not taken, must have been of such easy recognition as to exclude the slightest uncertainty regarding its determination." Acknowledgments of indebtedness are made in the preface to various observers, and in cases where species are admitted on the authority of others, the name of the authority is given as a part of the record. The arrangement and nomenclature is that of the A. O. U. Check-List.

Among the records of special interest is the capture of the Skua (*Megalestris skua*) on Niagara River in the spring of 1886, by Prof. Chas. Linden, and a pair of Evening Grosbeaks (*Coccothraustes vespertina*) taken in 1886, by B. W. Fenton. The Carolina Chickadee (*Parus carolinensis*) is given as a straggler. The Yellow-crowned Night Heron (*Nycticorax violaceus*) and Wilson's Plover (*Ægialitis wilsonia*) are recorded as migrants, on the authority of Prof. Linden. It would be of interest to know whether specimens of these two species taken near Buffalo are

* On *Pratincola salax* Verr. and Allied Species. Proc. Acad. Nat. Sci. Phila., 1889, pp. 78-80.

†A List of the Birds of Buffalo and Vicinity. By W. H. Bergtold, M. D., President of the Buffalo Naturalists' Field Club, etc. Reprinted from the Bulletin of the Buffalo Naturalists' Field Club of the Buffalo Society of Natural Science. Buffalo, N. Y., 1889, 8vo. pp. 21.

extant. We are also surprised to see the Common Cormorant (*Phalacrocorax carbo*) given (on the author's own authority) as a rare migrant, this being a strictly maritime species, while *P. dilophus* is not infrequent on the Great Lakes, though not given in the list.

The rather northern character of the fauna is indicated by the breeding of such species as the Winter Wren, the Mourning Warbler, the Canadian Warbler, the Red-bellied Nuthatch, the Hermit Thrush, the Yellow-bellied Flycatcher, and the Slate-colored Junco.

The list is obviously far from complete, and further observations will doubtless prove that many species now given as merely migrants are really more or less common summer residents. It has, however, evidently been prepared with considerable care. The author appeals to ornithologists familiar with the region in question for aid in perfecting it. —J. A. A.

Keyes and Williams's Preliminary Catalogue of the Birds of Iowa.*—The present brochure is stated to be preliminary to a more extended account of the birds of Iowa already in course of preparation. The authors state that "only such species are inserted as have come under the personal observations of the writers," and that "for the most parts kins or mounted specimens" of the species enumerated are to be found in their collections. The observations have been made mainly "in the vicinities of Charles City, Des Moines, and Iowa City," but are supplemented by notes made at various other points. The dates of arrival and departure are based on studies made chiefly at Des Moines.

The list follows the classification and nomenclature of the A. O. U. Check-List, including the names of the higher groups, from order to subgenus, as well as of the species. The latter are not, however, numbered, but a careful count shows the number recorded to be 260. The list is very fully and carefully annotated. It is evidently highly trustworthy, and exceedingly creditable in respect to typography and general execution.—J. A. A.

Taylor's Catalogue of Nebraska Birds.*—Nebraska, like Kansas and some of the other Central States, includes portions of two quite distinct faunal regions, although mainly within the so-called Middle Province of the continent. The eastern border of the State lies so far eastward as to include nearly all of the species proper to the States east of the Mississippi River, while the western part of the State is fairly within the arid,

* A Preliminary Annotated Catalogue of the Birds of Iowa. By Charles R. Keyes and H. S. Williams, M. D. Extracted from Proceedings Davenport Academy Natural Sciences, Vol. V. Davenport, Iowa. 1888. 8vo, pp. 49.

* A Catalogue of Nebraska Birds arranged according to the Check List of the American Ornithological Union. By W. Edgar Taylor, State Normal, Peru, Nebraska. Ann. Rep. Nebraska State Board of Agriculture, for the year 1887, pp. 111-118. Published, 1888.

treeless 'Middle Province' area. It is thus not surprising that the bird fauna of the State should include a large proportion of the characteristic species of both the East and the West, resulting in an aggregate much above that of any area of similar extent situated either east or west of this equivocal middle district belt. In the present "provisional list," designed as a temporary aid in the further careful study of the birds of the State, 314 species and subspecies are recorded. The author states that the list is based, in addition to his own "comparatively meagre" observations, upon every source of reliable information, published or unpublished, open to him, including records published in Baird's 'Birds of North America,' Dr. Aughey's 'Locust Feeding Birds,' and the records and collections of the Normal Science Society, and of various personal friends. The list is briefly annotated, and is apparently very carefully compiled. It is put forth as merely a temporary, tentative list, to be completed by further study of the birds of the State. A number of western forms of eastern species which are unquestionably common in the western part of the State are omitted. The "*Zonotrichia gambeli*," given on Baird's authority, is of course the *Z. intermedia* of recent authors. With this exception we notice no improbable records. Its appearance is somewhat marred by its being set 'solid' and in small type, and by the use of a capital initial letter for each species and subspecies—matters probably beyond the control of the author.—J. A. A.

Shufeldt's Recent Contributions to the Osteology of North American Birds.—Since our last notice of Dr. Shufeldt's contributions to his favorite subject numerous papers of his have reached us, including Parts II-IV of his 'Contributions to the Comparative Osteology of Arctic and Sub-arctic Water-birds',* treating of the genera *Uria*, *Synthliborhamphus*, *Brachyrhamphus*, *Cepphus*, *Cerorhinca*, *Ptychorhamphus*, *Cyclorrhynchus*, and *Simorkynchus*. The osteology of the genus *Uria* is compared at length with that of *Alca*, previously treated in Part I, while the accompanying plates give figures of the principal skeletal parts of *Chionis*, *Hæmatopus*, and *Larus*. Parts III and IV are illustrated with 25 figures in the text.

In 'Observations upon the Osteology of the North American Anseres',† the skeletal structure of our Ducks, Geese, and Swans is passed in review, and illustrated by 30 'process' cuts in the text. Another elaborate memoir treats of the osteology of the Tubinares and Steganopodes,‡ with 43 illustrations in the text. The forms treated at greatest length are *Oceanodroma furcata*, *Fulmarus glacialis rodgersii*, *Diomedea albatrus*, *Sula bassana*, *Phalacrocorax urile*, and *Pelecanus fuscus*. We have also received Part I of 'Osteological Studies of the Subfamily Ardeinæ'.§ In

* Journ. Anat. & Phys., Vol. XXXIII, pp. 165-186, pll. vii-xi; pp. 400-427; pp. 537-558.

† Proc. U. S. Nat. Mus., 1888, pp. 215-251.

‡ Observations upon the Osteology of the Orders Tubinares and Steganopodes. Proc. U. S. Nat. Mus., 1888, pp. 253-315.

§ Journ. Comp. Med. & Surg., July, 1889.

these various papers the osteology of the species treated is described at length, compared with that of related forms, and illustrated with numerous excellent figures of the principal elements of the skeleton.—J. A. A.

Gould's Supplement to the Trochilidæ.*—The 'Supplement to the Trochilidæ, or Humming Birds,' now recently completed in five parts, was projected shortly before Mr. Gould's death in 1881. It forms a single folio volume of 58 plates and text, prepared and published under the direction of Mr. R. Bowdler Sharpe, with the coöperation of Mr. Osbert Salvin. The work on the Hummingbirds, as now completed, forms six imperial folio volumes, with upwards of 400 plates, illustrating about 450 species. It is needless to say that this magnificent monograph of the most beautiful and interesting family of birds, illustrated with a delicacy and gorgeousness well befitting the gems of bird life it portrays, is not only a monument to its author, but one of the most attractive ornithological works yet produced. While the 'Supplement' falls somewhat short of covering the whole field of recent discovery in respect to this group of birds, it forms a fitting conclusion to the great 'Monograph' begun by Gould in 1849—nearly forty years before the completion of the 'Supplement.'—J. A. A.

Publications Received.—**Berlepsch**, Hans von. (1) Description of two New Birds from Northern Peru. (Ibis, Apr. 1889, pp. 180, 181, pl. VI.) (2) Beschreibung eines neuen Colibri und Bemerkungen über eines Collection von Vogelbälgen aus der Umgegend von Sta. Fé de Bogota in Colombia. (Zeits. f. Orn., 1887, pp. 177-187, pl. iii.) (3) Systematisches Verzeichniss der von Herrn Gustav Garlepp in Brasilien und Nord Peru, im Gebiete desoberen Amazonas gesammelten Vogelbälge. (Journ. f. Orn., Jan., 1889).

Brewster, W. The Woodcock and the Worm. (Forest & Stream, Aug. 1, 1889.) (2) The Woodcock's Whistle. (Ibid., Aug. 22, 1889.)

Bryant, W. E. Descriptions of the nests and eggs of some Lower California Birds, with a Description of the young plumage of *Geothlypis beldingi*. (Proc. California Acad. Sci., 1889, pp. 20-27.)

Chapman, Frank M. (1) A Revision of the genus *Xiphorhynchus* Swainson, with Descriptions of two New Species. (Bull. Am. Mus. Nat. Hist., II, pp. 153-162, July 5, 1889.) (2) Description of a New Species of Hummingbird of the Genus *Amazilia*. (Ibid., pp. 168, 169, July, 1889.)

Dalgleish, J. J. Notes on a Collection of Birds and Eggs from the Republic of Paraguay. (Proc. Roy. Phys. Soc. Edinburg, X, pp. 73-88.)

Foster, L. S. Some Nyack [N. Y.] Birds. (Nyack Even. Journal, Aug. 19, 1889.)

Giglioli, H. H. Primo Resoconto dei Risultati della Inchiesta Ornitologica in Italia. Parte Prima, Avifauna Italico, etc. 8vo, pp. 807, Firenze, 1889.

---

* Supplement to the Trochilidæ or Humming Birds. One Volume, imp. folio. H. Sotheran and Co., London and Manchester, 1885-87.

Gurney, J. H. (1) On an apparently undescribed Species of Owl from the Liu Kiu (or Loo Choo) Islands, proposed to be called *Scops pryeri*. (Ibis, July, 1889, pp. 302-305.) (2) [Note on *Falco minor*.] (Ibid., pp. 396, 397.) (3) [Notes on various Argentine Hawks.] (Ibid., pp. 397, 398.)

Nerhling, H. Die Nord-Amerikanische Vogelwelt. 2 Heft. 1889.

Rhoads, S. N. The Mimetic Origin and Development of Bird Language. (Am. Nat., Mch., 1889, pp. 91-102.)

Salvadori, T. Descrizione di tre nuove specie di ucelli raccolte nei Monti Carin da Leonardo Fea. (Annali del Mus. Civ. di Stor. Nat. di Genova, VII, pp. 363, 364.)

Shufeldt, R. W. (1) Observations upon the Osteology of the North American Anatidæ. (Proc. U. S. Nat. Mus., 1888, pp. 215-251.) (2) Observations upon the Osteology of the Orders Tubinares and Steganopodes. (Ibid., pp. 253-315.) (3) Osteological Studies of the Subfamily Ardeinæ. Part I. (Journ. Comp. Med. & Surg., July, 1889.) (4) Contributions to the Comparative Osteology of Arctic and Subarctic Waterbirds. Pts. II-IV. (Journ. An. & Phys., Vol. XXXIII.)

Stone, W. Catalogue of the Muscicapidæ in the Collection of the Academy of Natural Sciences of Philadelphia. (Proc. Acad. Nat. Sci. Phila., 1889, pp. 146-154.)

Taczanowski, M. L. Liste supplémentaire des Oiseaux recueillis en Corée par M. Jean Kalinowski. (Proc. Zool. Soc. London, 1888, pp. 450-469.

Webster, E. B. The Preservative Method of Taxidermy with chapters on making Skins and Skeletons. 12 mo., pp. 20, Cresco, Ia., 1889.

American Field, XXXI, Nos. 25, 26; XXXII, Nos. 1-11.

American Journ. Sci., July-Sept., 1889.

American Naturalist, Mch.-Apr., 1889.

Forest and Stream, XXXII, Nos. 22-26; XXXIII, Nos. 1-7.

Journal Cincinnati Soc. Nat. Hist., XII, No. I, Apr., 1889.

Naturalist, The, A Month. Journ. Nat. Hist. for North of England, Nos. 168-170, 1889.

Oölogists' Exchange, II, No. 4, July, 1889.

Ornis, Internat. Zeit. für die gesam. Ornithologie, Heft 2, 1889.

Ornithologist and Oölogist, XIV, June-Aug., 1889.

Ornithologists' and Oologists' Semi-Annual, I, No. 2, July, 1889.

Ottawa Naturalist, III, No. 2, Aug., 1889.

Proceedings Acad. Nat. Sci. Philadelphia, Pt. 1, 1889.

Proceedings U. S. Nat. Mus., 1889, pp. 301-528.

Zoologischer Anzeiger, Nos. 308-314, 1889.

Zoologist, July-Sept., 1889.

GENERAL NOTES.

A New Duck for Massachusetts, Nomonyx dominicus.—A fine adult male specimen of *Nomonyx dominicus* (Linn.) was shot in a small pond near Malden, Mass., on August 27, 1889. It was brought to Messrs. Goodale and Frazar (93 Sudbury St., Boston) to be stuffed, and it was by the kindness of Mr. Goodale that I had the pleasure of examining it in the flesh. The color of the upper mandible was light blue with a narrow middle stripe of black. The feet were gray. This is, I believe, the first record for this species in Massachusetts, and the third for North America. (See Baird, Cassin, and Lawrence, B. N. A., p. 925 (1860); Cabot, Proc. Boston Soc. Nat. Hist., VI, p. 375, XIV, p. 154; and American Nat., V, p. 441.)—CHAS. B. CORY, *Boston, Mass.*

Phalaropus lobatus and Phalaropus tricolor.—I saw four *Phalaropus lobatus* here June 18. Two killed were females with ova the size of No. 12 shot. I believed them to be last year's birds.

I came upon three *Phalaropus tricolor* at play the afternoon of May 16 just as the sun shone for the first time after a two days' cold storm of rain and snow. They were in shallow still water, about a foot apart, forming a triangle, and each kept in nearly the same place while they spun about rapidly like tops. They would often pause for a little while with bills pointing inward and then at the same moment resume their spin, each apparently doing its best to go the fastest. I watched them for ten minutes at less than twenty-five yards' distance, and their light graceful bodies riding like corks the little waves of their own making was a pretty sight. I reluctantly killed them and found them to be an old female and male and a last year's male.—P. M. THORNE, *Capt. 22d Inft., Fort Keogh, Montana.*

Nesting Habits of the Parrakeet (*Conurus carolinensis*).—While in Florida during February and March, 1889, I questioned everybody whom I met regarding the nesting of the Parrakeet. Only three persons professed any knowledge on this subject. The first two were both uneducated men—professional hunters of alligators and plume birds. Each of them claimed to have seen Parrakeets' nests, which they described as flimsy structures built of twigs and placed on the branches of cypress trees. One of them said he found a nest only the previous summer (1888), while fishing. By means of his pole he tipped the nest over and secured two young birds which it contained.

This account was so widely at variance with what has been previously recorded regarding the manner of nesting of this species that I considered it, at the time, as a mere fabrication, but afterwards it was unexpectedly and most strongly corroborated by Judge R. L. Long of Tallahassee. The latter gentleman, who, by the way, has a very good general knowledge of the birds of our Northern States, assured me that he had examined

many nests of the Parrakeet built precisely as above described. Formerly, when the birds were abundant in the surrounding region, he used to find them breeding in large colonies in the cypress swamps. Several of these colonies contained at least a thousand birds each. They nested invariably in small cypress trees, the favorite position being on a fork near the end of a slender horizontal branch. Every such fork would be occupied, and, he has seen as many as forty or fifty nests in one small tree. Their nests closely resembled those of the Carolina Dove, being similarly composed of cypress twigs put together so loosely that the eggs were often visible from the ground beneath. The twigs of the cypress seemed to be preferred to those of any other kind of tree. The height at which the nests were placed varied from five or six feet to twenty or thirty feet. Mr. Long described the eggs as being of a greenish white color, unspotted. He did not remember the maximum number which he had found in one set, but thought it was at least four or five. He had often taken young birds from the nests to rear or to give to his friends. He knew of a small colony of Parrakeets breeding in Waukulla Swamp, about twenty miles from Tallahassee, in the summer of 1885, and believes that they still occur there in moderate numbers.

It seems difficult to reconcile such testimony with the statements of Audubon, Wilson, and others that the Carolina Parrakeet lays its eggs in hollow trees. It may be, however, that, like the Crow Blackbird and some of the Owls, this Parrot nests both in holes and on branches, according to circumstances; at all events the above account has seemed to me to rest on evidence sufficiently good to warrant its publication.

I may add in this connection that the wide-spread impression that the Parrakeet is on the verge of extinction, is not literally correct. A few are still found as far north in Florida as the Weekiva River bottom, while south of Kissimee they are still actually abundant over a region of considerable extent. Everywhere, however, they are decreasing fast, and unless steps are taken to protect them from the ravages of the specimen and plume hunters, who invariably shoot all that come in their way, the total extermination of the species can be a matter of only a few more years.—WILLIAM BREWSTER, *Cambridge, Mass.*

Melanerpes carolinus Eating Oranges.—As corroborating Dr. Warren's account in his late report on the birds of Pennsylvania, it may be worth while to state that when at Enterprise, Florida, in February, 1889, I observed a Red-bellied Woodpecker eating the pulp of a sweet orange. He flew down to the ground and, hopping along rather clumsily, approached an orange, and for several minutes pecked at it in a slow deliberate way. When I showed myself he at once took flight, and sought shelter in the dense foliage of the trees above. Upon examining the orange, I found that it was decayed through the whole of one side. In the sound portion were three holes, each nearly as large as a silver dollar, with narrow strips of peel between them. The pulp had been eaten out quite to the middle of the fruit. Small pieces of rind were thickly strewn about the spot. Upon searching closely I discovered several other oranges that had been

attacked in a similar manner. All were partially decayed, and were lying on the ground. I was unable to find any on the trees which showed any marks of the Woodpecker's bill. The owner of this grove was surprised when I called his attention to the above facts, which were quite new to him. Nor had any of the other orange growers in the neighborhood any knowledge of this orange-eating habit of the Red-bellied Woodpecker.—WILLIAM BREWSTER, *Cambridge, Mass.*

The Fish Crow (*Corvus ossifragus*) **in Connecticut.**—I have the pleasure of recording a few notes on the Fish Crow in this State. For several years I have detected birds of the Crow family along the shore, which, from the notes, method of flight, and apparently smaller size almost convinced me they were Fish Crows, but until this season had no opportunity to verify the belief. On the 10th of May I killed a fine specimen in an extensive tract of swampy woods bordering a salt marsh in Stratford, and saw two others at the same time; the latter, being highly excited at the disappearance of the other, circled about some time calling loudly but finally quieted without offering a shot. Many times afterward I saw the birds, and others, seeing no less than four at one time (May 29), all mature birds. The one secured, although a male, showed evidence of having assisted in incubation, but owing to the dense and almost impassable nature of this swamp no nest was found.

In Fairfield, a pair was seen many times, and a nest found before it was entirely finished, but I watched them so persistently that they soon deserted. They must have reared young elsewhere, as subsequently on several occasions previous to the middle of June they exhibited much alarm at my approach, circling about overhead by the hour in a highly vexed and tireless fashion, following me sometimes for half a mile. Although I saw no young I need no better evidence than their actions to convince me that they were breeding.

Linsley in his 'Catalogue of the Birds of Connecticut' gave the Fish Crow as occurring at "Stratford," but added no further remarks. Within one or two years others have been taken here, of which no record has been published. It is not common, but it may be called not a rare bird, and I think has been largely overlooked from its resemblance to *Corvus americanus*. I feel confident the species also winters here, as I have several times seen what certainly appeared to be Fish Crows, feeding on the sand bars at low tide, retiring to the woods at high tide, and never associating with the common species.—EDWIN H. EAMES, *Bridgeport, Connecticut.*

Mortality among Eave Swallows.—A calamity which has affected two or three species in this section may be worth chronicling. Early in the month of June, 1889, I was asked by two or three persons as to what had become of the Eave Swallows (*Petrochelidon lunifrons*), it being reported that but very few were to be seen. An investigation revealed the fact that not over five per cent of them were to be found. They had, however, come in their usual numbers earlier in the season. An examination of the newly completed nests revealed dead birds in nearly every nest. Large

numbers were also found dead on the ground in the vicinity of the buildings frequented by them. Twenty-two nests were examined on one barn, about six miles northeast of this city, and thirty-seven dead birds were found in the nests. About two miles from this barn one hundred nests were examined on a large barn and dead birds were found, one or more in each nest. Five or six miles northwest of the city a like condition of affairs was reported. An investigation in a section of country six or eight north and fifteen or twenty miles south of the city revealed a similar destruction of Eave Swallows; the ground about the barn on one farm was reported "covered with dead birds." The dead specimens examined were exceedingly emaciated, and they apparently had starved to death. Their crops were empty.

Probably the cause of this destruction was as follows. We had about a week of warm weather at the time the Eave Swallows came, this being followed by a prolonged cool period during which time but little insect life could be found, and the birds starved to death. The warm week early in the season may have served to bring the birds North in advance of their usual time. From whatever cause the destruction resulted, the fact remains that in this section of Northern Illinois over ninety per cent of the Eave Swallows have died.

Probably from the same influence that proved so hostile to the Eave Swallows, the Purple Martin (*Progne subis*) has this season much diminished in numbers. As nearly as I can judge we have not over one tenth of the usual number in this section. The Chimney Swifts are also present in greatly reduced numbers. It would be interesting to learn how extensive has been the destruction of these three species.—F. H. KIMBALL, M. D., *Rockford, Illinois.*

The Yellow-throated Warbler (*Dendroica dominica*) near Washington, D. C.—On July 28, 1889, while collecting at Four Mile Run, Virginia, a short distance from Washington, Mr. J. D. Figgins and the writer were fortunate enough to secure five specimens of the Yellow-throated Warbler. At the same locality, on August 1, a short search revealed five more specimens, and on August 5, still another bird was taken, making eleven in all. The five taken on July 28 were in very poor condition and beginning to moult, while the other six were in full fall plumage. All were adults.

Previous to the capture of the specimens just mentioned, but two Yellow-throated Warblers had been recorded from this vicinity, the first collected in 1842, and the second taken by Mr. William Palmer at Arlington, Virginia, Sept. 7, 1881. Both are preserved in the National Museum.

This species has been observed more or less commonly at several places south of Washington, in Maryland and Virginia—Quantico, Va., twenty-nine miles from here, being the nearest.—CHAS. W. RICHMOND, *Washington, D. C.*

Troglodytes aëdon, House Wren, Building in a Hornets' Nest.—Among the variety of novel nesting places chosen by this little bird, I

probably have witnessed one unobserved before by ornithologists. On May 18, 1889, near Chelsea, Delaware Co., Pennsylvania, I observed a pair of Wrens diligently engaged in lugging sticks into a large hornets' nest, which was hanging under the cornice of an old farmhouse. Near the top of the nest a cavity had been excavated, evidently by the birds, as the ground underneath was strewn with its fragments. I was unable afterwards to visit that locality, but from inquiry feel confident, they succeeded in rearing their brood unmolested.—J. HARRIS REED, *Chester, Pa.*

Birds near Springfield, Massachusetts.—Throughout the early summer of 1888, near the main highway between Springfield and Westfield, and in the immediate vicinity of three farmhouses, a male Mockingbird remained, singing incessantly. This year at exactly the same spot the bird has again appeared. Although I have never seen the female, still there is very little doubt that there is one there and that they bred there last year and are doing the same this year.

On September 14, 1889, I shot and captured a Leach's Petrel (*Oceanodroma leucorhoa*) upon the Connecticut River, four or five miles below Springfield. Its presence so far inland can undoubtedly be accounted for by the very violent northeast storm that had prevailed for the preceding two or three days. The bird sat upon the water and permitted me to approach in a boat within fifteen or twenty yards,—it would then arise and fly perhaps a quarter of a mile, then alight, repeating this action several times, until I finally shot it.

A pair of Red-headed Woodpeckers (*Melanerpes erythrocephalus*) have bred in Agawam, near Springfield, this summer; this fact may not be worthy of mention, but it is quite rare to find them here.—ROBERT O. MORRIS, *Springfield, Mass.*

Notes from Minnesota.—During a collecting trip to Madison, Lac Qui Parle County, Minnesota, which occupied the last three weeks in May, 1889, I observed among others the following birds:—

Limosa hæmastica. HUDSONIAN GODWIT.—A dozen or more seen in company with the Marbled Godwit. Two specimens taken.

Tringa fuscicollis. WHITE-RUMPED SANDPIPER.—Very abundant, inhabiting muddy sloughs, associated with Pectoral and Red-backed Sandpipers. A large series collected.

Arenaria interpres. TURNSTONE.—A small flock observed, out of which I secured four females and one male; found with Sandpipers.

Ammodramus caudacutus nelsoni. NELSON'S SHARP-TAILED FINCH.—A single individual, a female, was shot on the edge of a swamp of wild rice. There were no markings on the breast, and the entire under parts were strongly tinged with buff, in this respect resembling *A. leconteii.*

Rhynchophanes mccownii. MCCOWN'S LONGSPUR.—A male was taken in a large field; it was in company with a large number of Chestnut-collared Longspurs.

I can also record from Minneapolis, *Leucosticte tephrocotis littoralis*, a male of which was taken by a young collector on Jan. 3, 1889. It was shot from among a flock of Snow Buntings. I examined the specimen and compared it with one from Colorado collected in April. It was a shade darker than the Colorado bird.—GEO. G. CANTWELL, *Minneapolis, Minn.*

Notes from Wyoming.—While taking field notes on migration of birds during the spring just passed I have been fortunate in finding a few species beyond what appears to be their known eastern or western limit. My record is as follows:—

April 14, *Carpodacus mexicanus frontalis*, one individual, a male, and also *Agelaius gubernator*, one male bird in flock of *A. phœniceus*.

May 23, *Dendroica pensylvanica*, one male.

May 25, *Micropalama himantopus*, two birds, possibly a pair.

May 28, *Piranga erythromelas*, one male.

On June 11, a pair of *Carpodacus mexicanus frontalis* were found breeding one mile west of Cheyenne. The nest was close up under the eaves of a log house, upon the projecting end of a log. The female, nest, and eggs were brought to me for identification. — FRANK BOND, *Cheyenne, Wyoming.*

NOTES AND NEWS.

EUGEN FERDINAND VON HOMEYER, a distinguished ornithologist, and a Corresponding Member of the A. O. U., died at Stolp, Pomerania, May 31, 1889, in the eightieth year of his age, he having been born at Heerdin, near Auklam, Nov. 11, 1809. His principal works were 'Systematische Uebersicht der Vögel Pommerns,' 1837, and Supplement to the same, 1841; 'Beiträge zur Kentniss der Vögel Ostsibiriens und des Amurlandes' (J. f. O., 1868-70); and 'Die Wanderungen der Vögel mit Rücksicht auf die Zuge der Saugethiere, Fische und Insecten', 1881. He was also the author of a long list of important special papers, relating mainly to the birds of the Palæarctic Region, of which he possessed a very rich collection. He was for some years president of the Ornithological Society of Berlin.

THE SEVENTH CONGRESS of the American Ornithologists' Union will be held at the American Museum of Natural History, 77th Street and 8th Avenue, New York City, beginning Tuesday, November 12, 1889. Besides the usual routine of business, and action on important proposed amendments to the 'By-Laws' of the Union, many scientific papers will be presented. A large attendance of both Active and Associate Members is expected. As already announced (Auk, VI, pp. 82, 208) a new feature

of these meetings will be the examination of material bearing upon the status and relationships of several groups of perplexing forms of North American birds. The groups chosen for consideration at the next meeting are the Horned Larks (genus *Otocoris*) and the Thrushes known as *Turdus aliciæ* and *Turdus aliciæ bicknelli*. It is hoped that those having specimens of these groups will kindly send or bring them for inspection. Packages of such material addressed to J. A. Allen, American Museum of Natural History, 77th St. and 8th Ave., New York City, will be received and cared for, and duly returned to the owners at the close of the meeting. Already one important loan of such material has arrived, and it is hoped this notice will serve to remind the members of the Union to send in due ime their contributions of material for examination.

DURING the last few months Dr. C. Hart Merriam has been making important explorations of the avian and mammalian faunas of the San Francisco Mountains in Arizona, under the auspices of the Department of Agriculture. Dr. L. Stejneger is also in Arizona, in the interest of the National Museum, collecting birds and reptiles, he having been appointed, some months since, Curator of the Department of Reptiles at the Museum.

MR. CLARK P. STREATOR has been collecting birds and Mammals in British Columbia during the past summer for the American Museum of Natural History, to which he has already shipped about one thousand specimens. His work will throw much light on the distribution of birds in the Northwest, besides supplying large series of specimens of species not previously well represented even in our large museums.

MR. WILLIAM B. RICHARDSON has recently completed a trip through the Sierra Madre, from Tepic to Zacatecas in Mexico, in the interest of Messrs. Salvin and Godman, resulting in a collection of some 2000 bird skins, collected mainly in a region never before explored by a naturalist.

MR. W. E. D. SCOTT has, during the past summer, given much attention to the birds of Mountain Lake and vicinity in Virginia, where, with his usual energy and activity, he has made a large collection of the summer birds of this interesting locality.

Messrs. McMillan & Co. of London are about to put to press Parts I and II ('Field' and 'General Ornithology') of Dr. Coues's 'Key to North American Birds', as a volume of their 'International Scientific Series.'

INDEX TO VOLUME VI.

Acanthis hornemannii, 294, 329.
linaria, 24, 294, 314.
sp.———?, 211, 293, 297.
Accipiter atricapillus, 313.
cooperi, 117, 221, 237, 247, 313.
velox, 117, 247, 313.
Actitis macularia, 31, 32, 43, 53, 76, 78, 99, 117, 120, 128, 147, 158, 195, 237, 313.
Æchmophorus occidentalis, 122.
Ægialitis hiaticula, 217.
meloda, 147, 159.
meloda circumcincta, 70.
semipalmata, 32, 147, 159.
vocifera, 69, 159, 195, 198, 220, 222, 237, 255, 274, 313.
wilsonia, 159, 195, 196, 331.
Æstrelata hasitata, 132.
Agelaius gubernator, 220, 341.
phœniceus, 24, 44, 77, 78, 141, 201, 314, 320, 341.
phœniceus bryanti, 320.
Aix sponsa, 176, 179, 312.
Ajaja ajaja, 14, 275.
Alauda arvensis, 177.
Alca torda, 145.
Alle alle, 183, 213.
Allen, F. H., summer birds at Bridgewater and Moultonboro', New Hampshire, 76.
Allen, J. A., note on first plumage of *Colinus ridgwayi*, 189; the Florida Gallinule breeding in Vermont, 273.
Amazilia lawrencei, 209.
American Ornithologists' Union, sixth congress of, 55; notice of supplement to the A. O. U. code of nomenclature and check-list of North American birds, 168; notice of the abridged A. O. U. check-list, 169.
Ammodramus beldingi, 222.
caudacutus, 204, 303, 322.
caudacutus nelsoni, 340.
henslowii, 44, 194, 322.
maritimus, 130, 197, 303.
passerinus, 204.
peninsulæ, 322.
princeps, 64, 148, 199.
sandwichensis alaudinus, 222.
sandwichensis savanna, 25, 44, 101, 148, 321.
savannarum passerinus, 25, 40, 44, 198, 321.
Ampelis cedrorum, 26, 31, 45, 77, 78, 102, 118, 144, 201, 202, 281, 315, 326.
garrulus, 26, 184.
Amphispiza bilineata, 240.
Anas americana, 302.
boschas, 133, 179, 211, 215, 312.
carolinensis, 312.
cyanoptera, 160, 223.
diazi, 264.
discors, 312.
fulvigula, 263.
maculosa, 263.
obscura, 133, 146, 197, 264, 312.
penelope, 64, 302.
Anhinga anhinga, 312.
Anthus cervinus, 329.
pensilvanicus, 28, 222, 240.
Antrostomus carolinensis, 252.
vociferus, 10, 22, 44, 77, 78, 99, 276, 314.
Aphelocoma californica, 221.
californica hypoleuca, 329.
floridana, 319.
sieberii arizonæ, 173.
Aphriza virgata, 195.
Aquila chrysaëtos, 175.
Aramus giganteus, 152.

Ardea cærulea, 18, 64.
candidissima, 18, 223, 312.
egretta, 17, 183, 312.
herodias, 76, 78, 236, 312.
occidentalis, 16.
rufescens, 14.
tricolor ruficollis, 18.
virescens, 18, 32, 53, 76, 312.
wardi, 17.
wuerdemanni, 16.
Arenaria interpres, 32, 129, 159, 340.
Asio accipitrinus, 147, 175, 201, 313.
wilsonianus, 299.
Attila viridescens, 172.
Auk, Great, 64, 176, 178, 195.
Razor-billed, 145, 184.
Averill, C. K., Jr., Loggerhead Shrike at Bridgeport, Connecticut, 74; *Tringa bairdii* on Long Island Sound, 189.
Aythya americana, 312.
marila nearctica, 312.
vallisneria, 312.

Badger, G. B., *Histrionicus histrionicus* on Long Island, New York, 67.
Barrows, W. B., notice of his report on the English Sparrow in North America, 326.
Bartramia longicauda, 158, 237.
Batchelder, C. F., an undescribed subspecies of *Dryobates pubescens*, 253.
Beckham, C. W., notice of his 'Observations on the birds of Southwestern Texas,' 173.
Bellona cristata, 218.
exilis, 218.
ornatus, 218.
Bendire, C. E., notes on the habits, nests and eggs of *Dendragapus obscurus fuliginosus*, the Sooty Grouse, 32; *Sphyrapicus ruber* breeding in coniferous trees, 71; a peculiar nest of *Cinclus mexicanus*, 75; notes on the general habits, nests and eggs of the genus *Passerella*, 107; description of the supposed nest and eggs of *Zonotrichia querula*, Harris's Sparrow, 150; notice of his recent papers on nests and eggs of some rare North American birds, 173; *Picicorvus columbianus* (Wils.), Clarke's Nutcracker. Its nest and eggs, etc., 226; description of the nest and eggs of *Megascops asio maxwelliæ*, the Rocky Mountain Screech Owl, 298.
Bergtold, W. H., notice of his list of the birds of Buffalo and vicinity, 331.
Betty-bird, 313.
Bird, Frigate, 180.
Bishop, L. B., notes on the birds of the Magdalen Islands, 144; *Helminthophila pinus*, *H. chrysoptera*, *H. leucobronchialis* and *H. lawrencei* in Connecticut in the spring of 1888, 192.
Bittern, 1, 187.
American, 16, 146.
Cory's, 317.
European, 5.
Least, 16.
Blackbird, Bahaman Red-winged, 320.
Brewer's, 190.
Crow, 44.
Red-winged, 24, 44, 141, 201.
Rusty, 24, 147, 303.
Blackcock, 176.
Bluebird, 30, 42, 46, 107, 141, 197, 202, 241.
Bobolink, 23, 44, 100, 319.
Bob-white, Cuban, 245.
Florida, 245.
Texan, 237.
Bonasa umbellus, 44, 52, 76, 99, 175, 177.
umbellus togata, 117.
Bond, F., *Myadestes townsendii* apparently wintering in Wyoming, 193; notes from Wyoming, 341.
Botaurus exilis, 16.
lentiginosus, 1, 16, 146, 187, 312.
neoxena, 317.
stellaris, 6.
Brachyrhamphus kittlitzi, 329.
Branta canadensis, 312.
Breese, W. L., death of, 81.
Brewster, W., the present status of Forster's Tern as a bird of New England, 66; occurrence of the Western Sandpiper (*Ereunetes occidentalis*) in numbers on the coast of Massachusetts, 69; Krider's Hawk (*Buteo borealis kriderii*) on the coast of Georgia, 70; second occurrence of the

Prairie Horned Lark in Eastern Massachusetts, 71; descriptions of supposed new birds from western North America and Mexico, 85; *Dendroica coronata* feeding upon oranges, 279; the present status of the Wild Pigeon (*Ectopistes migratorius*) as a bird of the United States, with some notes on its habits, 285; nesting habits of the Parrakeet (*Conurus carolinensis*), 336; *Melanerpes carolinus* eating oranges, 337.
Brittain, J., and Cox, P., Jr., notes on the summer birds of the Restigouche Valley, New Brunswick, 116.
Brown, J. C., early appearance of *Empidonax minimus* at Portland, Maine, 71; unusual nesting site of *Dendroica virens*, 74; winter notes from Portland, Maine, 280.
Brown, N. C., remarkable flight of Killdeer (*Ægialitis vocifera*) near Portland, Maine, 69; note on *Ægialitis meloda circumcincta*, 70.
Bubo virginianus, 117, 249, 313.
virginianus subarcticus, 238.
Bunting, Black-throated, 137, 194.
Indigo, 24, 25, 324.
Painted, 240, 324.
Snow, 195, 341.
Bush-tit, Lead-colored, 173.
Buteo abbreviatus 173.
borealis, 44, 99, 117, 247, 313.
borealis kriderii, 70.
brachyurus, 243, 248, 275.
fuliginosus, 243.
latissimus, 248.
lineatus, 183, 237, 247, 313.
lineatus alleni, 247.
swainsoni, 173, 237, 313.
Butorides saturatus, 172.
Buzzard, Turkey, 52, 70, 183, 201, 237.

Calamospiza melanocorys, 192.
Calcarius lapponicus, 137, 190, 211, 278, 296, 297.
ornatus, 190, 340.
Calidris arenaria, 157.
Callipepla californica vallicola, 221, 223.
elegans bensoni, 175.
gambeli, 280.
Campephilus principalis, 251, 313
Camptolaimus labradorius, 64, 178.
Campylorhynchus brevirostris, 172.
capistratus, 171.
castaneus, 171.
Cantwell, G. G., notes from Minnesota, 340.
Cardinal, 25, 151, 240, 324.
Cardinalis cardinalis, 24, 25, 120, 151, 240, 315, 324.
Carpodacus mexicanus frontalis, 220, 341.
mexicanus ruberrimus, 329.
purpureus, 24, 44, 77, 78, 100, 117, 147, 174, 280, 314.
Catbird, 28, 46, 53, 105.
Catharista atrata, 237, 246, 313.
Cathartes aura, 52, 70, 121, 183, 201, 221, 237, 246, 313.
Catharus berlepschi, 171, 173.
fumosus, 171.
mexicanus, 171.
Catherpes mexicanus conspersus, 240.
Cedarbird, 45, 102, 202, 281.
Centrocercus urophasianus, 33.
Centurus santacruzi pauper, 172.
Ceophlœus pileatus, 22, 99, 119, 238, 251, 303, 313.
Cepphus grylle, 145, 213.
Certhia familiaris, 173.
familiaris americana, 29, 42, 52, 105, 241, 316.
familiaris scandulaca, 173.
Certhiola atrata, 219.
godmani, 219.
sacharina, 219.
sharpei, 31.
wellsi, 219.
Ceryle alcyon, 22, 44, 76, 117, 129, 147, 238, 250, 313.
Chadbourne, A. P., an unusual flight of Killdeer Plover (*Ægialitis vocifera*) along the New England coast, 255.
Chætura pelagica, 9, 10, 11, 22, 44, 53, 77, 78, 99, 117, 120, 142, 252, 314, 339.
Chamæa fasciata henshawi, 221.
Chamberlain, M., some account of the birds of southern Greenland from the MSS. of A. Hagerup, 211, 291.
Chapman, F. M., *Helminthophila bachmani* on the east coast of Florida, 278; a suggestion to the A. O. U. committee on the revision of the Check-List of North American Birds, 281; notes on

birds observed in the vicinity of Englewood, New Jersey, 302.
Charadrius apricarius, 217.
dominicus, 159, 258.
squatarola, 158.
virginicus, 180.
Charitonetta albeola, 312.
Chat, 121.
Yellow-breasted, 28, 40, 42, 43, 46, 104.
Chelidon erythrogaster, 26, 31, 45, 53, 77, 78, 102, 118, 130, 201, 315, 325.
Chen cærulescens, 68.
hyperborea, 195.
Chickadee, 29, 46, 105.
Black-capped, 119.
Carolina, 29, 75, 331.
Hudsonian, 119, 149, 204.
Chicken, Mother Carey's, 312.
Chondestes grammacus, 25, 303, 314, 322.
grammacus strigatus, 220, 240.
Chordeiles popetue minor, 183.
virginianus, 22, 44, 77, 78, 99, 117, 201, 314.
virginianus chapmani, 252, 329.
virginianus henryi, 239.
Chrysotis amazonica, 50.
leucocephala, 31, 32.
vittata, 49.
Chrysuronia œnone, 210.
Chuck-will's-widow, 252.
Cinclus mexicanus, 75.
Circus hudsonius, 44, 76, 129, 147, 237, 247, 313.
Cistothorus palustris, 29, 316.
palustris paludicola, 222.
Clangula hyemalis, 216.
Clivicola riparia, 26, 45, 118, 120, 130, 148, 197, 201, 315, 325.
Coccothraustes vespertina, 72, 177, 178, 179, 314, 331.
Coccyzus americanus, 21, 120, 238, 250, 313.
erythrophthalmus, 22, 44, 76, 78, 99, 120, 250, 313.
minor, 250.
minor maynardi, 250.
Cock-of-the-woods, 313.
Colaptes auratus, 22, 44, 53, 76, 78, 99, 117, 119, 147, 176, 183, 202, 239, 252, 281, 314.
cafer, 221, 239, 300.
Colinus graysoni, 174.
nigrogularis segoviensis, 172.
Colinus ridgwayi, 174, 189.
virginianus, 42, 52, 99, 121, 175, 178, 245, 313.
virginianus cubanensis, 245, 329.
virginianus floridanus, 245.
virginianus texanus, 174, 237.
Collocalia fuciphaga, 9, 11.
Colopteryx inornatus, 172.
Columba fasciata, 173.
leucocephala, 32, 246.
Columbigallina passerina, 32, 246.
passerina insularis, 172.
Colymbus auritus, 145.
Collyrio ludovicianus, 180.
Compsothlypis americana, 27, 31, 45, 77, 103, 315.
nigrilora, 94.
pulchra, 93.
Contopus borealis, 43, 100, 105, 117, 122, 137, 314.
richardsoni, 239.
vicinus, 172.
virens, 23, 44, 53, 77, 78, 100, 117, 121, 314, 319.
Conurus carolinensis, 201, 249, 313, 336.
Cooke, W. W., notice of his 'Report on Bird Migration in the Mississippi Valley,' 58, 270.
Coot, American, 156.
Copurus colonus, 267.
funebris, 267.
Coracopitta, 79.
Cormorant, 133, 215.
Common, 332.
Double-crested, 146.
Farallone, 176.
Corvus americanus, 23, 44, 52, 77, 78, 100, 117, 121, 129, 140, 141, 147, 180, 181, 201, 202, 240, 314.
americanus floridanus, 319.
corax, 100.
corax principalis, 52, 147, 211, 277, 292, 293.
corax sinuatus, 23, 277, 314.
cryptoleucus, 173.
ossifragus, 199, 319, 338.
Cory, C. B., a list of the birds collected by Mr. C. J. Maynard in the Islands of Little Cayman and Cayman Brack, West Indies, 30; notes on West Indian birds, 218; notice of his 'Birds of the West Indies,' 265; *Buteo brachyurus* in Florida, 275; *Antrostomus vociferus* in Porto Rico,

276; a new Duck for Massachusetts, *Nomonyx dominicus*, 336.
Coues, E., a new generic name for the Elf Owl, 71.
Cowbird, 23, 44, 72, 100, 113, 307, 320.
Cox, P., Jr., a bird wave, 241; see also Brittain, J.
Crake, Spotted, 217.
Crane, Little Brown, 124.
Sandhill, 152.
Creeper, Black-and-white, 51.
Brown, 29, 42, 52, 105, 240.
Crossbill, 197.
American, 24, 118, 148.
American Red, 100.
Red, 43, 100.
White-winged, 24, 148.
Crotophaga ani, 32.
Crow, 52, 117, 140, 180, 181, 202.
American, 23, 44, 100, 129, 147.
Common, 240.
Fish, 319, 338.
Florida, 319.
Crymophilus fulicarius, 134, 194.
Cuckoo, Black-billed, 22, 44, 99, 250.
Mangrove, 250.
Maynard's, 250.
Yellow-billed, 22, 238, 250.
Curlew, Long-billed, 158.
Cyanocitta cristata, 23, 44, 77, 78, 100, 117, 184, 197, 202, 239, 314.
cristata florincola, 319.
stelleri frontalis, 223.
stelleri macrolopha, 193.
Cyclorhis altirostris, 269.
ochrocephala, 269.
viridis, 269.
Cyphorhinus griseolateralis, 172.

DAFILA acuta, 312.
Davie, O., notice of his 'Nests and Eggs of North American Birds,' 328.
Davison, S. L., breeding of *Habia ludoviciana* in Niagara County, New York, 191.
Dendragapus canadensis, 39, 204.
obscurus, 39, 177.
obscurus fuliginosus, 32.
obscurus richardsonii, 39.
Dendrochelidon coronatum, 11.
mystacea, 9, 10, 11.
wallacei, 9, 11.
Dendrocolaptes obsoletus, 172.
Dendroica æstiva, 24, 27, 42, 45, 77, 103, 107, 118, 120, 130, 148, 240, 316.
auduboni, 96, 221.
aurocapilla, 31.
blackburniæ, 27, 42, 46, 51, 103, 120, 316.
cærulea, 27.
cærulescens, 27, 31, 41, 43, 45, 51, 103, 104, 122.
castanea, 27, 42, 106, 138, 198.
chrysoparia, 174.
coronata, 27, 42, 43, 77, 78, 103, 118, 141, 148, 149, 199, 279, 280, 316.
discolor, 31, 198.
dominica, 120, 195, 339.
dominica albilora, 27, 316.
kirtlandi, 75, 279.
maculosa, 27, 43, 77, 103, 104, 106, 118, 120, 148.
nigrescens, 223.
nigrifrons, 94.
palmarum, 28, 31, 183.
pensylvanica, 27, 41, 46, 50, 77, 78, 103, 120, 316, 341.
striata, 27, 42, 120, 149.
tigrina, 27, 198.
vigorsii, 28, 77, 198.
virens, 27, 46, 51, 74, 77, 78, 103, 118, 120, 149, 316.
vitellina, 31.
Dendrornis fraterculus, 172.
lawrencei, 171.
lawrencei costaricensis, 171.
Diablotin, 19, 20.
Dichrozona zononota, 172.
Dickcissel, 25, 137, 240, 324.
Diomedea albatrus, 333.
Diver, Great Northern, 176.
Red-throated, 213.
Dolichonyx oryzivorus, 23, 31, 44, 77, 78, 100, 319.
Dove, 53, 142.
Ground, 246.
Mourning, 40, 44, 237, 246.
Sea, 183.
White-winged, 160, 246.
Dovekie, 213.
Dowitcher, 156.
Long-billed, 156.
Downs, A., notice of his 'Birds of Nova Scotia', 64.
Dryobates borealis, 251, 313.
nuttallii, 221.

Dryobates pubescens, 22, 44, 52, 76, 78, 99, 117, 121, 147, 238, 251, 253, 313.
pubescens gairdnerii, 221, 253.
pubescens oreœcus, 253.
scalaris, 238.
villosus, 22, 42, 52, 76, 99, 117, 147, 238, 313.
villosus auduboni, 251.
Duck, Black, 133, 146, 197.
Chicken-footed, 312.
Fish, 312.
Harlequin, 134, 216.
Labrador, 64.
Mallard, 211.
Mottled, 263.
Pied, 178.
Ruddy, 184.
Wood, 176, 179.
Dutcher, B. H., bird notes from Little Gull Island, Suffolk Co., N. Y., 124.
Dutcher, W., bird notes from Long Island, New York, 131.
Dwight, J., Jr., *Sterna paradisæa* —A correction.

Eagle, Bald, 117, 237, 248.
Golden, 175.
Gray Sea, 291.
Eames, E. H., notes on the Blue-winged Warbler and its allies (*Helminthophila pinus*, *H. leucobronchialis*, *H. lawrencei*, and *H. chrysoptera*) in Connecticut, 305; the Fish Crow (*Corvus ossifragus*) in Connecticut, 338.
Ectopistes migratorius, 201, 285, 302, 313.
Egret, American, 17.
Peale's, 14.
Reddish, 18.
Eider, Greenland, 216.
King, 216.
Elainea albiceps, 269.
martinica, 31.
modesta, 269.
Elanoides forficatus, 246, 313.
Elanus leucurus, 247.
Elliot, D. G., descriptions of supposed new species of Hummingbirds belonging to the genus *Amazilia* and *Eriocnemis*, 209.
Elliott, H. W., the Cowbird (*Molothrus ater*) as a fly-destroyer, 72.
Elliott, S. L., death of, 206.
Emberiza unalaschcensis, 109.
Empidagra albiceps, 269.
Empidagra suiriri, 269.
Empidonax acadicus, 23, 24, 120, 199, 314, 319.
cinereus, 86, 87.
difficilis, 86, 222.
flaviventris, 23, 42, 86, 239, 314, 332.
griseus, 87.
hammondi, 88.
minimus, 23, 44, 71, 77, 78, 100, 117, 121, 144, 147, 314.
obscurus, 88.
pulverius, 86.
pusillus traillii, 23, 44, 71, 78, 100, 314.
wrightii, 89.
Engyptila vinaceiventris, 172.
wellsi, 21.
Ereunetes occidentalis, 69, 157.
pusillus, 69, 128, 157.
Eriocnemis incultus, 210.
Erismatura rubida, 184.
Euetheia canora, 329.
olivacea, 31.
Euphonia affinis, 91.
godmani, 90.
minima, 91.
Euphonia, Godman's, 90.
Euryzona eurizonoides, 173.
eurizonoides amauroptera, 173.
Evans, E. M., *Calamospiza melanocorys* on Long Island, N. Y., 192.
Evermann, B. W., birds of Carroll County, Indiana, 22; the Wood Ibis in Indiana, 186.

Falco columbarius, 147, 248, 313.
fusco-cærulescens, 173.
islandus, 292.
peregrinus anatum, 44, 248, 276, 292, 293.
rusticolus, 292.
sparverius, 221, 237, 248, 313.
sparveroides, 329.
Falcon, Aplomado, 173.
Peregrine, 292.
Faxon, W., on the summer birds of Berkshire County, Massachusetts, 39, 99; *Molothrus ater* in Massachusetts in December, 72.
Finch, Lark, 25, 303.
Lincoln's, 90.
Nelson's Sharp-tailed, 340.
Pine, 43, 118.
Purple, 24, 44, 100, 118, 147, 280.

Finch, Seaside, 197, 303.
Sharp-tailed, 303, 322.
Fish-hawk, 180.
Flamingo, American, 13.
Flicker, 117, 147, 239, 252, 300.
Red-shafted, 239.
Flycatcher, Acadian, 23, 24, 319.
Crested, 23, 44, 100, 319.
Gray, 87.
Least, 23, 44, 71, 100, 117.
Olivaceous, 276.
Olive-sided, 43, 100, 105, 117, 137.
Scissor-tailed, 161, 239, 318.
Sierra Madre, 86.
Traill's, 23, 44, 71, 100.
Yellow-bellied, 23, 42, 239, 332.
Fowl, Sage, 33.
Fratercula arctica, 145, 213.
Fregata aquila, 180.
Fulica americana, 156, 201, 312.
Fulmar, 215.
Tropical, 131.
Fulmarus glacialis, 215.
glacialis rodgersii, 333.

Galeoscoptes carolinensis, 23, 31, 46, 53, 77, 79, 105, 120, 316.
Gallinago delicata, 146, 156, 312.
Gallinula eurizonoides, 7
galeata, 155, 194, 222, 273.
Gallinule, 222.
Florida, 155, 194, 273.
Purple, 64, 155, 184, 198.
Gannet, 145, 146.
Blue-footed, 67.
Brewster's, 67.
Gault, B. T., the Lapland Longspur near Chicago in June, 278.
Gavia alba, 213.
Gelochelidon nilotica, 311.
Geococcyx californianus, 221, 238.
Geothlypis agilis, 28, 193.
beldingi, 329.
formosa, 28, 139, 198, 199, 304, 316.
philadelphia, 28, 42, 43, 103, 119, 198, 332.
trichas, 24, 28, 31, 46, 53, 77, 78, 104, 119, 121, 149, 316.
trichas occidentalis, 223.
trichas roscoe, 167.
Geotrygon martinica, 160, 246.
montana, 160, 246.
Glaucionetta islandica, 216.
Gnatcatcher, Black-fronted, 97.
Blue-gray, 29, 204, 241, 305.
California Black-capped, 173.
Godwit, Hudsonian, 340.
Marbled, 157.
Golden-eye, Barrow's, 216.
Goldfinch, American, 24, 44, 100, 118, 321.
Goose, Blue, 68.
Snow, 195.
Goss, N. S., additions to the catalogue of the birds of Kansas, with notes in regard to their habits, 122.
Gould, J., notice of his 'Birds of New Guinea,' 269; notice of the supplement to his monograph of the Trochilidæ, 334.
Gourdhead, 312.
Grackle, 141, 201.
Boat-tailed, 321.
Bronzed, 24, 117.
Florida, 321.
Rusty, 117.
Grebe, Horned, 145.
Western, 122.
Green, M. M., Baird's Sandpiper in Central New York, 68.
Grosbeak, Blue, 64, 324.
Cardinal, 24.
Evening, 72, 177, 178, 179, 331.
Pine, 117.
Rose-breasted, 25, 45, 101, 122, 191, 324.
Grouse, Blue, 32.
Canada, 39.
Canadian Ruffed, 117.
Dusky, 39, 177.
Richardson's, 39.
Ruffed, 44, 52, 99, 175, 177.
Sharp-tailed, 33, 300.
Sooty, 32.
Grus americana, 312.
canadensis, 124.
mexicana, 152.
Guara alba, 15.
rubra, 15.
Guillemot, Black, 145, 213.
Guiraca cærulea, 64, 315, 324.
Gull, American Herring, 146.
Glaucous, 213.
Great Black-backed, 145, 214, 215.
Iceland, 214, 215.
Ivory, 213.
Kittiwake, 178.
Gyrfalcon, Gray, 292.
White, 292.

Habia ludoviciana, 25, 45, 77, 101, 122, 191, 201, 315, 324.

Hæmatopus palliatus, 160.
Haliæetus albicilla, 211, 291.
leucocephalus, 76, 79, 117, 237, 248, 313.
Hardy, M., additional notes on the Bittern, 187.
Harporhynchus lecontei, 280.
longirostris sennetti, 171.
rufus, 29, 42, 43, 46, 77, 79, 105, 121, 204, 305, 316.
Harvie-Brown, J. A., 'Bird Migration in the Mississippi Valley' by W. W. Cooke, 270.
Hasbrouck, E. M., restoration of an Audubonian form of *Geothlypis trichas* to the American avifauna, 167; summer birds of Eastland County, Texas, 236.
Hawk, Broad-winged, 248.
Cooper's, 117, 237, 247.
Duck, 44, 248, 276, 293.
Florida Red-shouldered, 247.
Krider's, 70.
Marsh, 44, 129, 147, 237, 247.
Pigeon, 147, 248.
Red-shouldered, 183, 237, 247.
Red-tailed, 44, 99, 247.
Sharp-shinned, 117, 247.
Short-tailed, 248.
Sparrow, 237, 248.
Swainson's, 173, 237.
Zone-tailed, 173.
Helinaia swainsonii, 315.
Helminthophila bachmani, 278.
celata lutescens, 223.
chrysoptera, 27, 192, 279, 305, 315.
lawrencei, 192, 305.
leucobronchialis, 192, 198, 304, 305.
peregrina, 27, 102, 118, 138, 184, 201, 315.
pinus, 27, 192, 199, 279, 305.
ruficapilla, 27, 40, 41, 42, 43, 45, 77, 102, 198, 304, 315.
Helmitherus vermivorus, 24, 31, 199, 315.
Hen, Pine, 32.
Hendrickson, W. F., the Chesnut-collared and Lapland Longspurs on Long Island, N. Y., 190.
Heron, Black-crowned Night, 18.
Great Blue, 236.
Great White, 16.
Green, 18, 53.
Little Blue, 18.
Louisiana, 18.
Snowy, 18.
Ward's, 17.
Heron, White, 183.
Wuerdemann's, 16.
Yellow-crowned Night, 18, 184, 331.
Heterocnemis hypoleuca, 172.
Himantopus mexicanus, 156.
Histrionicus histrionicus, 67, 134, 216.
Hitchcock, F. H., the Connecticut Warbler in Vermont, 193.
Homeyer, E. F. v., death of, 341.
Hudson, W. H., see Sclater, P. L.
Hummingbird, 23, 177, 180.
Ruby-throated, 44, 53, 99, 252.

Ibis, Glossy, 15.
Scarlet, 15.
White, 15.
Wood, 16, 186.
Icteria virens, 28, 40, 42, 43, 46, 104, 121, 199, 316.
Icterus bullocki, 223.
galbula, 24, 42, 44, 60, 77, 100, 121, 181, 240, 314.
spurius, 24, 40, 44, 314, 320.
Ictinia mississippiensis, 247, 313.
Indigo-bird, 45, 53, 101.
Ionornis martinica, 70, 155, 184, 198.

Jack, 312.
Black, 312.
Jaeger, Parasitic, 125, 160, 213.
Pomarine, 125.
Jay, Arizona, 173.
Blue, 23, 44, 100, 117, 184, 197, 202, 239.
Canada, 117.
Florida, 319.
Florida Blue, 319.
Long-crested, 193.
Oregon, 235.
Rocky Mountain, 230.
Jeffries, J. A., see Jeffries, W. A.
Jeffries, W. A., *Chen cærulescens* in Massachusetts, 68; Sandpipers at sea—a correction, 69; birds observed at Santa Barbara, California, 220.
Jeffries, W. A., and J. A., notes on Western North Carolina birds, 119.
Johnson, F. O., *Polioptila plumbea* at Palm Springs, California, 280.
Johnson, L. N., The Wild Turkey in the North Carolina mountains, 275.
Jordan, D. S., notice of his new manual of vertebrates, 63.

Junco hyemalis, 25, 41, 43, 45, 77, 78, 101, 118, 121, 140, 141, 148, 221, 241, 242, 315, 332.
hyemalis carolinensis, 51, 121.
hyemalis oregonus, 221.
Junco, 118, 241, 242.
Slate-colored, 25, 148, 332.

KEYES, C. R., and Williams, H. S., notice of their preliminary catalogue of the birds of Iowa, 332.
Kidder, J. H., death of, 282.
Killdeer, 69, 159, 195, 237.
Kimball, F. H., mortality among Eave Swallows, 338.
Kingbird, 23, 44, 53, 100, 117, 147, 202, 318.
Gray, 318.
Kingfisher, 22, 117, 238, 251.
Belted, 44, 129, 147.
Kinglet, Golden-crowned, 29, 42, 105, 142, 149.
Ruby-crowned, 29, 75, 142.
Kite, Everglade, 247.
Mississippi, 247.
Swallow-tailed, 246.
White-tailed, 247.
Kittiwake, 145, 213.
Knot, 156, 196.
Kohn, G., *Saxicola œnanthe* in Louisiana, 76; Brewer's Blackbird near New Orleans, 190.
Kumlien, T., death of, 81, 204.

LAGOPUS rupestris reinhardti, 211, 217.
Lanius borealis, 26, 175, 315.
ludovicianus, 138, 180, 192, 195, 198, 224, 304.
ludovicianus excubitorides, 26, 74, 192, 224, 240.
Lark, Horned, 137, 195, 198.
Prairie Horned, 23, 71.
Shore, 190, 191.
Larus argentatus smithsonianus, 146, 311.
atricilla, 311.
californicus, 222.
delawarensis, 311.
franklinii, 311.
glaucescens, 222.
glaucus, 214, 215.
leucopterus, 214, 215.
marinus, 145, 214, 215.
minutus, 329.
occidentalis, 222.
Lawrence, G. N., an account of the breeding habits of *Puffinus audubonii* in the Island of Grenada West Indies, with a note on *Zenaida rubripes*, 19; remarks upon abnormal coloring of plumage observed in several species of birds, 46; a new name for the species of *Sporophila* from Texas, generally known as *S. morelleti*, 53; notice of his description of *Catharus berlepschi*, 173.
Leptasthenura ægithaloides, 269.
platensis, 269.
Leucosticte tephrocotis littoralis, 341.
Limosa fedoa, 157.
hæmastica, 340.
Limpkin, 152.
Linnæan Society of New York, proceedings of, 196.
Linnet, 174.
Longspur, Chestnut-collared, 190, 340.
Lapland, 137, 190, 211, 278, 296, 297.
McCown's, 340.
Loomis, L. M., a rare bird in Chester Co., South Carolina, 74; another Western bird in South Carolina, 194; the Raven as a South Carolinian, 277.
Loon, 145, 213.
Lophodytes cucullatus, 312.
Loxia curvirostra, 118.
curvirostra minor, 24, 43, 100, 148, 197, 201.
leucoptera, 24, 148, 201.
Lucas, F. A., the main divisions of the Swifts, 8; costal variations in birds, 195.

MACRORHAMPHUS griseus, 156.
scolopaceus, 156.
Magpie, American, 181.
Black-billed, 299.
Yellow-billed, 180.
Mallard, 133, 179, 215.
Marshall, A. F., death of, 80.
Martin, Cuban, 325.
Purple, 25, 53, 339.
Western, 92.
Mason, E. C., the Turkey Buzzard in Massachusetts, 70.
Meadowlark, 24, 44, 142, 175, 203.
Mexican, 320.
Megalestris skua, 176, 331.
Megascops asio, 189, 299, 313.
asio floridanus, 249.
asio kennicottii, 299.
asio maxwelliæ, 298.
asio mccallii, 237.

Melanerpes aurifrons, 238.
carolinus, 22, 179, 204, 238, 251, 314, 337.
erythrocephalus, 22, 53, 198, 202, 238, 251, 313, 340.
formicivorus bairdi, 221.
Melanipitta, 79.
Meleagris gallopavo, 121, 184, 246, 275, 313.
Mellopitta, 79.
Melopelia leucoptera, 160, 246.
Melospiza fasciata, 25, 45, 77, 78, 101, 118, 130, 138, 148, 183, 197, 241, 242, 315, 323.
fasciata heermanni, 221.
fasciata montana, 240.
fasciata rivularis, 329.
georgiana, 25, 45, 78, 118, 148, 183, 323.
lincolni, 25, 221.
lincolni striata, 89.
Merganser americanus, 117, 312.
serrator, 146, 215, 222, 312.
Merganser, American, 117.
Red-breasted, 146, 215.
Merriam, C. H., a Hawk bearing a legend, 276.
Merriam, F. A., notice of her 'Birds Through an Opera Glass', 330.
Merula migratoria, 30, 46, 52, 78, 79, 107, 119, 122, 131, 141, 150, 175, 177, 182, 202, 203, 241, 281, 316.
migratoria propinqua, 73, 193, 222.
Micrathena, 71.
Micrathene, 71.
Microcerculus daulias, 171.
Micropalama himantopus, 156, 341.
Micropallas 71.
Micropallas whitneyi, 276.
Micropus apus, 9, 11.
melanoleucus, 223.
subfurcatus, 9.
Milvulus forficatus, 161, 239, 318.
Mimocichla ravida, 30.
rubripes, 30, 31.
Mimus gracilis leucophæus, 171.
polyglottos, 121, 197, 240, 304, 316, 340.
Minor ornithological publications, 174.
Mniotilta varia, 26, 45, 51, 77, 102, 121, 130, 131, 148, 315.
Mockingbird, 121, 240, 304, 340.
Molothrus ater, 23, 44, 72, 100, 113, 201, 307, 314, 320.
Morris, R. O., birds near Springfield, Massachusetts, 340.
Murre, 145.
Brünnich's 145, 213.
Myadestes townsendii, 184, 193.
Myiarchus cinerascens, 223.
crinitus, 23, 44, 78, 100, 121, 314, 319.
dominicensis, 184.
lawrenceii, 329.
lawrenceii olivascens, 276.
Myiozetetes texensis, 329.

NAUCLERUS forficatus, 182.
Nelson, E. W., notice of his 'Report upon natural history collections made in Alaska', 61.
Nighthawk, 22, 44, 99, 117.
Chapman's, 252.
Cuban, 183.
Western, 239.
Nomonyx dominicus, 336.
Numenius hudsonicus, 223.
longirostris, 158
phæopus, 217.
Nutcracker, Clarke's 123, 226.
Nuthatch, Red-bellied, 42, 52, 105, 332,
Red-breasted, 29, 119, 149.
White-bellied, 105, 241.
White-breasted, 29.
Nyctala acadica, 178, 189, 329.
Nyctea nyctea, 174, 179, 195, 293.
Nycticorax nycticorax nævius, 18.
violaceus, 18, 184, 331.

OCEANITES oceanicus, 128, 131, 132, 197.
Oceanodroma furcata, 333.
leucorhoa, 128, 131, 146, 215, 340.
leucorhoa macrodactyla, 178.
Oidemia deglandi, 146.
perspicillata, 123, 222.
Old-squaw, 216.
Olor——?, 312.
Oporornis agilis, 183.
Oriole, Baltimore, 24, 42, 44, 60, 100, 181, 240.
Orchard, 24, 40, 44, 320.
Ornithion napæum, 172.
Osprey, 178.
American, 117, 129, 248.
Otocoris alpestris, 72, 137, 190, 191, 195.
alpestris praticola, 23, 71, 198, 200.
alpestris rubea, 222.
Ouzel, Water, 75.
Oven-bird, 24, 28, 118, 149.

Owl, American Barn, 303.
American Long-eared, 299.
Barn, 184, 248.
Barred, 237.
Burrowing, 177.
Elf, 276.
Florida Barred, 248.
Florida Burrowing, 249.
Florida Screech, 249.
Great Horned, 117, 249.
Kennicott's Screech, 299.
Prairie, 175.
Rocky Mountain Screech, 298.
Saw-whet, 178, 189.
Screech, 189.
Short-eared, 147, 175.
Snowy, 174, 179, 195, 293.
Texas Screech, 237.
Western Horned, 238.
Oyster-catcher, American, 160.

PALMER, W., occurrence of Traill's Flycatcher near Washington, D. C., 71; first occurrence of the Philadelphia Vireo near Washington, D. C., 74.
Pandion haliaëtus, 117.
haliaëtus carolinensis, 129, 178, 180, 248.
Panyptila saxatilis, 9.
Paroquet, Carolina, 249.
Parrakeet, 336.
Partridge, Spruce, 204.
Parula, Beautiful, 93.
Parus atricapillus, 29, 46, 77, 79, 105, 119, 121, 144, 149, 316.
atricristatus, 241.
bicolor, 29, 75, 120, 305, 316.
carolinensis, 29, 75, 120, 316, 331.
carolinensis agilis, 241.
hudsonicus, 119, 149, 204.
inornatus, 221.
Passer domesticus, 45, 101, 140, 174, 176, 177, 179, 180, 181, 197, 198, 297, 316, 326.
montanus, 316, 326.
Passerella iliaca, 25, 107, 148, 176, 315, 323.
iliaca megarhyncha, 107, 111.
iliaca schistacea, 107, 113.
iliaca unalaschcensis, 107, 109.
Passerina ciris, 240, 324.
cyanea, 24, 25, 45, 53, 77, 78, 101, 121, 315, 324.
Pediocætes phasianellus campestris, 301.
Pediocætes phasianellus columbianus 33.
Pelecanus erythrorhynchos, 176, 312.
fuscus, 333.
Perisoreus canadensis, 117.
canadensis capitalis, 230.
canadensis obscurus, 235.
Petasophora coruscans, 209.
Petrel, Black-capped, 132.
Fork-tailed, 131.
Leach's, 128, 131, 146, 215, 340.
Least, 131.
Stormy, 131, 132.
Wilson's, 128, 131, 132, 197.
Petrochelidon lunifrons, 25, 45, 77, 102, 223, 315, 338.
Peucæa æstivalis, 323.
æstivalis bachmanii, 323.
cassini, 240.
Pewee, 23, 44, 100.
Western Wood, 239.
Wood, 23, 44, 53, 100, 117, 319.
Phacellodomus ruber, 269.
striaticollis, 269.
Phalacrocorax carbo, 133, 200, 215, 332.
dilophus, 146, 332.
dilophus albociliatus, 176.
urile, 333.
Phalænoptilus nuttalli, 124.
nuttalli nitidus, 124, 239.
Phalarope, Northern, 68, 134.
Red, 134, 194.
Phalaropus lobatus, 68, 134, 336.
tricolor, 312, 336.
Phasianus torquatus, 284.
Pheasant, Mongolian, 284.
Philohela minor, 156, 178, 179, 312.
Phlogopsis bowmani, 172.
Phœbe, 276, 319.
Phœnicopterus ruber, 13.
Phyllopseustes borealis, 329.
Pica nuttalli, 180.
pica hudsonica, 181, 299.
Picicorvus columbianus, 123, 226.
Picoides americanus, 204.
arcticus, 117, 136, 183, 204.
Picus turati, 254.
Pigeon, Band-tailed, 173.
Passenger, 201, 302.
White-crowned, 246.
Wild, 285.
Pindar, L. O., list of the birds of Fulton County, Kentucky, 310.
Piniçola enucleator, 117, 314.

Pipilo erythrophthalmus, 24, 25, 41, 42, 43, 45, 77, 78, 101, 121, 142, 280, 315.
erythrophthalmus alleni, 323.
fuscus crissalis, 221.
maculatus arcticus, 151, 152.
maculatus megalonyx, 223.
Pipit, American, 28.
Piranga erythromelas, 24, 25, 42, 45, 77, 78, 101, 315, 324, 341.
rubra, 240, 315, 324.
Pitangus caudifasciatus, 32.
Pitylus poliogaster scapularis, 172.
Plautus impennis, 64, 176, 178, 195.
Plectrophenax nivalis, 24, 211, 295, 341.
Plegadis autumnalis, 15, 64.
Plover, American Golden, 159.
Black-bellied, 158.
Golden, 180, 217.
Killdeer, 199, 255, 274.
Piping, 147, 159.
Ring, 217.
Semipalmated, 147, 159.
Wilson's, 159, 195, 196, 331.
Podilymbus podiceps, 311.
Polioptila cærulea, 29, 120, 204, 221, 241, 305, 316.
californica, 173.
nigriceps, 98.
nigriceps restricta, 97.
plumbea, 280.
Poocætes gramineus, 25, 44, 77, 78, 100, 144, 314, 321.
Poor-will, Frosted, 124.
Hoary, 239.
Porzana carolina, 155.
exilis vagans, 172.
porzana, 217.
Pratincola salax, 331.
sybilla, 331.
Prejevalsky, N. M., death of, 80.
Prime, W. C., the Northern Phalarope (*Phalaropus lobatus*) in the Franconia Mountains, New Hampshire, 68.
Procellaria pelagica, 131, 132.
Procnias tersa, 48.
Progne cryptoleuca, 329.
subis, 25, 53, 77, 78, 93, 201, 315, 325, 339.
subis cryptoleuca, 325.
subis hesperia, 92.
Protonotaria citrea, 26, 195, 315.
Psaltriparus lloydi, 329.
minimus californicus, 221.
plumbeus, 173.
santaritæ, 172.
Psittacula cyanopyga, 85.
cyanopyga pallida, 85.
deliciosa 172.
exquisita, 172.
insularis, 172.
passerina vivida, 172.
Psittovius subcæruleus, 47.
tovi, 47.
Ptarmigan, Reinhardt's, 217.
Publications received, 65, 184, 272, 334.
Puffin, 145, 213.
Puffinus auduboni, 19.
borealis, 126, 128, 183.
major, 183.

Quail, 42, 53, 175, 178.
Quail-dove, Key West, 160, 246.
Ruddy, 160, 246.
Quiscalus gundlachi, 31.
major, 321.
quiscula, 117, 141, 314.
quiscula æneus, 24, 44, 201, 314.
quiscula aglæus, 320, 321.

Ragsdale, G. H., on the hiatus existing between the breeding ranges of the Loggerhead and White-rumped Shrikes, 224.
Rail, Clapper, 153.
King, 153.
Scott's, 153.
Virginia, 155, 177.
Rallus coryi, 163, 165.
crassirostris, 161.
crepitans, 161-166.
crepitans saturatus, 164-166.
elegans, 153.
longirostris, 161, 165, 166.
longirostris caribæus, 162-165.
longirostris crepitans, 153, 162.
longirostris saturatus, 162, 163.
longirostris scottii, 153, 162.
obsoletus, 162, 163, 165, 166.
scottii, 163-166.
virginianus, 155, 177.
Raven, 52, 100, 211, 277, 292.
American, 23, 293.
Northern, 147.
White-necked, 173.
Recurvirostris americana, 223.
Redpoll, 24, 211, 293, 297.
Redstart, 40, 119.
American, 28, 46, 104, 131, 149

Reed, J. H., *Troglodytes aëdon*, House Wren, building in a hornets' nest, 339.
Regulus calendula, 29, 75, 79, 142, 316.
satrapa, 29, 42, 51, 79, 105, 142, 149, 181, 316.
Rhegmatorhina gymnops, 172.
Rhyncophanes mccownii, 340.
Rhynchops nigra, 178.
Richardson, J., the Florida Gallinule breeding in Vermont, 273.
Richmond, C. W., another Saw-whet Owl (*Nyctala acadica*) in the District of Columbia, 189; the Yellow-throated Warbler (*Dendroica dominica*) near Washington, D. C., 339.
Ridgway, R., notice of his recent papers on American birds, 171.
Rissa tridactyla, 145, 178, 213.
Rives, W. C., Jr., notes on the birds of White Top Mountain, Virginia, 50.
Road-runner, 238.
Robin, 57, 73, 119, 122, 141, 175, 177, 182, 193, 202, 203, 222, 241, 281.
American, 30, 46, 107, 131, 150.
Robinson, W., some rare Rhode Island birds, 194; some rare Virginia birds, 194.
Rostrhamus sociabilis, 247.

Sage, J. H., the interbreeding of *Helminthophila pinus* and *H. chrysoptera*, 279.
Salpinctes obsoletus, 183, 221.
Sanderling, 157.
Sandpiper, Baird's, 68.
Bartramian, 158, 237.
Buff-breasted, 136.
Least, 146, 157.
Pectoral, 157.
Purple, 156, 217.
Red-backed, 157.
Semipalmated, 128, 157.
Solitary, 117, 158, 195.
Spotted, 43, 53, 99, 117, 128, 147, 158, 195, 237.
Stilt, 156.
Western, 69, 157.
White-rumped, 157, 340.
Sapsucker, Yellow-bellied, 22, 117.
Saxicola œnanthe, 64, 76, 211, 297.
Sayornis nigricans, 221.
phœbe, 23, 44, 77, 78, 100, 120, 141, 199, 276, 314, 319.
Sayornis saya, 221.
Sclater, P. L., notice of his catalogue of the Mesomyodian Passeres, 266.
Sclater, P. L., and Hudson, W. H., notice of their 'Argentine Ornithology,' 268.
Scolecophagus carolinus, 24, 117, 147, 303, 314.
cyanocephalus, 190, 220.
Scoter, Surf, 123.
White-winged, 146.
Scotiapex cinerea lapponica, 329.
Scott, W. E. D., a summary of observations on the birds of the Gulf Coast of Florida, 13, 152, 245, 318; records of rare birds at Key West, Florida, and vicinity, with a note on the capture of a Dove (*Geotrygon montana*) new to North America, 160; on the specific identity of *Buteo brachyurus* and *Buteo fuliginosus*, with additional records of occurrence in Florida, 243; a second specimen of Cory's Bittern (*Botaurus neoxenus*), 317.
Seiurus aurocapillus, 24, 31, 46, 77, 78, 103, 104, 118, 149, 197, 316.
motacilla, 28, 199.
noveboracensis, 28, 31, 46, 118, 149, 316.
Sennett, G. B., first description of the egg of *Glaucidium phalænoides*, Ferruginous Pygmy Owl, 70; *Troglodytes aëdon*, House Wren, breeding in a sand bank, 76; the Clapper Rails of the United States and West Indies compared with *Rallus longirostris* of South America, 161; a new species of Duck from Texas, 263; *Micropallas whitneyi*, Elf Owl, taken in Texas, 276.
Setophaga ruticilla, 28, 31, 40, 46, 77, 79, 104, 119, 121, 131, 149, 316.
Sharpe, R. B., notice of his 'Birds in Nature,' 63.
Shearwater, Cory's, 126, 128, 183.
Greater, 183.
Shrike, Loggerhead, 74, 138, 192, 195, 224, 304.
Northern, 26.
White-rumped, 26, 224, 240.
Shufeldt, R. W., notes on Brewster's and the Blue-footed Gannet, 66; notes upon the sudden

appearance in numbers of the Evening Grosbeak, at Fort Wingate, New Mexico, 72; notice of his recent papers on the osteology of North American birds, 333.
Sialia mexicana, 221.
sialis, 30, 42, 46, 78, 79, 107, 121, 141, 184, 197, 202, 241, 316.
Siskin, Pine, 24, 100, 148.
Sitta canadensis, 29, 42, 52, 105, 107, 119, 149, 184, 193, 316, 332.
carolinensis, 29, 77, 79, 105, 121, 240, 316.
carolinensis aculeata, 223.
Skimmer, Black, 178.
Skua, 331.
Skylark, English, 177.
Snipe, Wilson's, 146, 156.
Snowbird, 41, 43, 45, 101, 104, 140.
Snowflake, 24, 211, 295.
Solitaire, Townsend's, 193.
Somateria mollissima borealis, 216.
spectabilis, 216.
Sora, 155.
Sparrow, Bachman's, 323.
Bay-winged, 44, 100.
Black-throated, 240.
Cassin's, 240.
Chipping, 25, 45, 101, 118, 142, 197, 323.
English, 140, 174, 176, 177, 181, 197, 198, 326.
European House, 297.
European Tree, 326.
Field, 25, 42, 45, 101, 142, 148, 303, 323.
Forbush's, 89.
Fox, 25, 107, 148, 176, 323.
Grasshopper, 25, 40 44, 198, 321.
Harris's, 150.
Henslow's, 44, 194, 322.
House, 45, 101, 180.
Ipswich, 64.
Lark, 322,
Lincoln's, 25.
Mountain Song, 240.
Pine-woods, 323.
Savanna, 25, 44, 101, 148, 321.
Scott's Seaside, 322.
Seaside, 130.
Slate-colored, 107, 113.
Song, 25, 45, 101, 118, 130, 138, 148, 183, 197, 241, 242, 323.
Sparrow, Swamp, 25, 45, 118, 148, 183, 323.
Thick-billed, 107, 111.
Townsend's, 107, 109.
Tree, 25, 300.
Vesper, 25, 321.
Western Lark, 240.
White-crowned, 25, 152.
White-throated, 25, 42, 43, 101, 118, 148, 183.
Speotyto cunicularia floridana, 249.
cunicularia hypogæa, 175, 177, 221.
Spermophila albigularis, 53.
morelleti, 53.
parva, 53.
Sphyrapicus ruber, 71.
varius, 22, 43, 53, 76, 99, 117, 251, 313.
Spinus lawrencei, 223.
pinus, 24, 43, 100, 118, 148, 314.
psaltria, 222.
tristis, 24, 44, 53, 77, 78, 100, 118, 118, 119, 222, 314, 321.
Spiza americana, 25, 137, 194, 240, 315, 324.
Spizella domestica, 181.
monticola, 25, 315.
monticola ochracea, 300.
pusilla, 25, 42, 45, 77, 78, 101, 121, 142, 148, 303, 315, 323.
pusilla arenacea, 329.
socialis, 25, 45, 77, 78, 101, 118, 120, 142, 197, 315, 323.
socialis arizonæ, 223.
Spoonbill, Roseate, 14.
Sporophila morelleti, 53, 54.
morelleti sharpei, 53, 54.
parva, 54.
Stejneger, L., the proper name for the genus *Melanipitta* of Schlegel, 79; notice of his papers on the Japanese Creepers and on the type specimen of *Euryzona eurizonoides*, 173.
Stelgidopteryx serripennis, 26, 199, 201, 223, 315, 325.
Stercorarius parasiticus, 125, 160, 213.
pomarinus, 125.
Sterna dougalli, 127.
forsteri, 66, 311.
hirundo, 126, 146, 186, 311.
paradisæa, 186.
tschegrava, 198.
Stevenson, H., death of, 79.

Stilt, Black-necked, 156.
Stone, W., graphic representation of bird migration, 139; notice of his 'Catalogue of the Muscicapidæ in the Collection of the Philadelphia Academy of Natural Sciences,' 330.
Strix pratincola, 184, 248, 303, 313.
Sturnella magna, 24, 44, 142, 175, 203, 314.
magna inexpectata, 172.
magna mexicana, 320, 329.
magna neglecta, 220.
Sula bassana, 145, 146, 333.
brewsteri, 67.
cyanops, 31, 32.
gossi, 67.
Surnia ulula, 329.
Swallow, Bank, 26, 45, 118, 130, 148, 197, 325.
Barn, 26, 45, 53, 102, 118, 130, 201. 325.
Cliff, 25.
Eave, 45, 102, 338.
Rough-winged, 26, 120, 325.
Tree, 26, 118, 130, 325.
White-bellied, 40, 102, 201, 303.
Swift, Chimney, 22, 44, 53, 99, 117, 142, 252, 339.
Sylvania canadensis, 28. 41, 43, 46, 52, 103, 104 119, 316, 332.
mitrata, 28, 139, 199.
pusilla, 28.
pusilla pileolata, 223.
Symphemia semipalmata, 158. 312.
semipalmata inornata, 158.
Syrnium nebulosum, 237, 313.
nebulosum alleni, 248, 275.

Tachycineta bicolor, 26, 40, 102, 118, 130, 199, 201, 222, 303, 315, 325.
thalassina, 120, 222.
Tanager, Scarlet, 24, 25, 42, 45, 101, 324,
Summer, 240, 324.
Tantalus loculator, 16, 186, 312.
Taylor, W. E., notice of his catalogue of Nebraska birds, 332.
Teal, Cinnamon, 160.
Tern, Caspian, 198.
Common, 126, 146.
Forster's, 66.
Roseate, 127.
Tetrao tetrix, 176.
Thalurania townsendi, 172.
Thamnophilus inornatus, 172.
intermedius, 172.
Thorne, P. M., the Olivaceous Flycatcher, and Phœbe in Colorado, 276; *Phalaropus lobatus* and *Phalaropus tricolor*, 336.
Thrasher, 121.
Brown, 29, 42, 43, 46, 105, 305.
Thrush, Alice's, 149.
Bicknell's 42, 64, 194.
Bicknell's Gray-cheeked, 106.
Eastern Hermit, 46, 107.
Golden-crowned, 46, 103, 104, 197.
Hermit, 30, 40, 41, 42, 43, 104, 119, 149, 175, 332.
Olive-backed, 30, 149.
Swainson's, 42, 107
Wilson's, 29, 46, 106, 149.
Wood, 24, 29, 40, 42, 43, 46, 106, 204.
Thryophilus sinaloa, 97
sinaloa cinereus, 96.
tænioptera, 172.
Thryothorus bewickii, 121, 316.
bewickii bairdi. 240.
herberti, 172.
ludovicianus, 29, 120, 240, 305, 316.
oyapocensis, 172.
rufalbus, 172.
rufalbus castanonotus, 171.
rufalbus var. poliopleura, 172.
Tigrisoma excellens, 172.
Titlark, American, 240.
Titmouse, Black-crested, 241.
Plumbeous, 241.
Tufted, 29, 75, 305.
Torrey, B., the 'booming' of the Bittern, 1; Bicknell's Thrush breeding in Vermont, 194; the Killdeer Plover (*Ægialitis vociferа*) wintering on the New England coast, 274.
Totanus flavipes, 158, 328.
melanoleucus, 146, 157, 200, 223, 258.
solitarius, 117, 158, 195.
Towhee, 24, 25, 41, 42, 43, 45, 101, 142, 280.
Arctic, 152.
White-eyed, 323.
Treat, W. E., a fishing Screech Owl, 189.
Tringa alpina pacifica, 157.
bairdii, 68, 189.
canutus, 156, 196.
fuscicollis, 157, 340.
maculata, 157, 189, 312.
maritima, 156, 217.
minutilla, 146, 157, 223.

Trochilus anna, 221.
colubris, 23, 44, 53, 77, 99, 121, 177, 180, 252, 314.
rufus, 221.
violajugulum, 223.
Troglodytes aëdon, 29, 42, 46, 76, 105, 316, 339.
aëdon parkmannii, 221.
alascensis, 329.
brunneicollis, 172.
hiemalis, 29, 42, 52, 105, 119, 149, 316, 332.
tecellata, 172.
Tryngites subruficollis, 136.
Turdus aliciæ, 149.
aliciæ bicknelli, 42, 64, 106, 194.
aonalaschkæ auduboni, 223.
aonalaschkæ pallasii, 30, 40, 41, 42, 43, 46, 78, 79, 104, 106, 107, 119, 141, 149, 175, 316, 332.
celænops, 182.
fuscescens, 29, 46, 78, 106, 121, 149.
fuscescens salicicolus, 194.
mustelinus, 24, 29, 40, 42, 43, 46, 106, 121, 141, 204, 316.
ustulatus swainsonii, 30, 42, 106, 107, 141, 149.
Turkey, Wild, 121, 246, 275.
Turnstone, 129, 159, 340.
Tympanuchus americanus, 48.
Tyrannulus reguloides, 172.
Tyrannus dominicensis, 31, 32, 318.
tyrannus, 23, 44, 53, 77, 78, 100, 117, 120, 147, 202, 314, 318.
verticalis, 223.
vociferans, 223.

Uria lomvia, 145, 213.
ringvia, 145.
troile, 145.
Urinator imber, 78, 145, 176, 212, 311.
lumme, 213.

Vireo alleni, 31.
bellii, 240, 315.
caymanensis, 31.
flavifrons, 26, 77, 315.
gilvus, 24, 26, 45, 79, 102, 223, 315.
huttoni, 221.
huttoni stephensi, 173.
noveboracensis, 40, 45, 120, 315.
olivaceus, 24, 26, 45, 74, 77, 78, 102, 118, 120, 315.
Vireo philadelphicus, 26, 42, 74, 315.
solitarius, 26, 40, 45, 77, 78, 102, 118.
solitarius alticola, 52, 122, 197.
solitarius cassinii, 223.
Vireo, Bell's, 240.
Blue-headed, 26, 40, 45, 52, 102.
Philadelphia, 26, 42, 74.
Red-eyed, 24, 26, 45, 74, 102, 118.
Solitary, 118.
Stephens's, 173.
Warbling, 24, 26, 45, 102.
White-eyed, 40, 45.
Yellow-throated, 26.
Vireolanius pulchellus, 48.
Volatinia jacarina, 218, 219.
splendens, 218.
Vulture, Black, 237, 246.
Turkey, 246.

Walloon, 311.
Warbler, Bay-breasted, 27, 42, 138.
Black-and-white, 26, 45, 102, 130, 131, 148.
Black-and-yellow, 43, 103, 104.
Blackburnian, 27, 42, 45, 51, 103.
Black-fronted, 94.
Blackpoll, 27, 42, 149.
Black-throated Blue, 27, 41, 43, 45, 51, 103, 104.
Black-throated Green, 27, 46, 51, 74, 103, 118, 149.
Blue Yellow-backed, 45, 103.
Blue-winged, 27.
Brewster's, 304.
Canadian, 28, 41, 43, 46, 52, 103, 104, 119, 332.
Cape May, 27.
Cerulean, 27.
Chestnut-sided, 27, 41, 46, 50, 103.
Connecticut, 28, 183, 193.
Golden-cheeked, 174.
Golden-winged, 27.
Hooded, 28, 139.
Kentucky, 28, 139, 304.
Kirtland's 75, 279.
Magnolia, 27, 118, 148.
Mourning, 28, 42, 43, 103, 118, 332.
Myrtle, 27, 148.
Nashville, 27, 40, 41, 42, 45, 102, 304.

Warbler, Palm, 28.
Parula, 27.
Pine, 28.
Prothonotary, 26, 195.
Sycamore, 27.
Tennessee, 27, 43, 102, 118, 138, 184.
Wilson's, 28.
Worm-eating, 24.
Yellow, 27, 42, 45, 103, 107, 118, 130, 148, 240.
Yellow-rumped, 42, 43, 103, 118, 279.
Yellow-throated, 195, 339.
War-loon, 311.
Warren, B. H., notice of his 'Report on the birds of Pennsylvania,' 170.
Washburn, F. L., recent capture of Kirtland's Warbler in Michigan, and other notes, 279.
Water-thrush, 28, 46, 118, 149.
Louisiana, 28.
Waxwing, American, 118.
Bohemian, 26, 184.
Cedar, 26, 326.
Wheatear, 64, 211, 297.
Whimbrel, 217.
Whip-poor-will, 22, 44, 99.
Widgeon, 302.
American, 302.
Willet, 158.
Western, 158.
Williams, H. S., see Keyes, C. R.
Woodcock, 178, 179, 313.
American, 156.
Woodpecker, Arctic Three-toed, 136.
Black-backed Three-toed, 117, 183.
Downy, 22, 44, 52, 99, 117, 147, 238, 251.
Golden-fronted, 238.
Golden-winged, 44, 53, 99, 202.
Hairy, 22, 42, 52, 99, 117, 147, 238.
Woodpecker, Ivory-billed, 251.
Pileated, 22, 183, 238, 251, 303.
Red-bellied, 22, 204, 238. 251, 337.
Red-cockaded, 251.
Red-headed, 22, 53, 198, 202, 238, 251, 340.
Southern Hairy, 251.
Texan, 238.
Yellow-bellied, 43, 53, 99, 251.
Wray, R. S., death of, 206.
Wren, Ashy, 96.
Baird's, 240.
Cañon, 240.
Carolina, 29, 240, 305.
Golden-crowned, 51.
House, 29, 42, 46, 76, 105, 339.
Long-billed Marsh, 29.
Rock, 183.
Winter, 29, 42, 52, 105, 119, 149, 332.

XANTHOCEPHALUS xanthocephalus, 220.

YELLOWBIRD, 53.
Yellowbird, Summer, 24.
Yellow-hammer, 22.
Yellow-legs, 158.
Greater, 146, 157, 200.
Yellow-throat, Maryland, 24, 28, 46, 53, 104, 119, 149.

ZENAIDA amabilis, 32.
jessiæ, 172.
rubripes, 19, 21.
Zenaidura macroura, 40, 44, 53, 142, 221, 237, 246, 313.
Zonotrichia albicollis, 25, 42, 43, 78, 101, 118, 148, 183, 315.
coronata, 221.
gambeli, 221, 333.
intermedia, 221, 333.
leucophrys, 25, 152, 314.
querula, 150, 329.

ERRATA.

Page 78, line 5, for *August 11* read *August 1*.

" 147, " 15, for **hudsonicus** read **hudsonius**.

" 193, " 22, 36, and page 194, line 13, for *Myiadestes* read *Myadestes*.

Page 276, line 3 from bottom, for *olivascens* read *olivascens*.

" 277, " 3, for T. W. THORNE read P. M. THORNE.

" 293, " 26, for **sinuatus** read **principalis**.